

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.02.98
Test oil : ISO 4113

Combination No. : 0 403 466 137DB

Injection pump
Pump designation : PES6MW100/120RS1148
EP type number : 0 413 406 143

Governor
Governor design. : RSV400...900MW7A319
: -24
Governor no. : 0 420 085 216

Cust. part No. : 3921083

Customer-spec. information
Customer : CDC
Motor : 6 CTA

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 017

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance *NW : + 0.75

Start of delivery mark

*NW after s.o.d. : 9.00
Tolerance : + 0.50
Check tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 13.55
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 179.0

Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

 Rated speed rpm : 400
 Rack travel in mm : 5.80
 Tolerance mm : + 0.10
 Del. quantity
 cm³/1000 strokes : 18.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 4.5
 Spred
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + 0.20
 governor spring
 pre-tension
 click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 179.0

Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

CONTROL LEVER
 control lever
 position degree : 105.0
 tolerance degree : + 4.0
 RATED SPEED
 rack travel mm : 12.50
 Rated speed rpm : 795
 Tolerance 1/min : + 5
 rack travel mm : 4.00
 Rated speed rpm : 830
 Tolerance 1/min : + 5
 rack travel mm : 1.00
 Tolerance mm : + 0.70
 Rated speed rpm : 875
 rack travel mm : 4.00
 Rated speed rpm : 835
 Tolerance 1/min : + 15

LOW IDLE

control lever
 position degree : 79.0
 tolerance degree : + 4.0
 Control lever difference
 Grad : 26.0
 tolerance degree : + 6.0
 Setting point w/out bumper spring
 Rated speed rpm : 100
 CRT mm min. : > 19.00

Testing:
 Rated speed rpm : 400
 rack travel mm : 5.80
 Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 750
rack travel mm : 13.55
Tolerance mm : + 0.05

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : + 1.00
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 15.0

LOW IDLE

Rated speed rpm : 400
Rack travel in mm : 5.80
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.5
Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.11.97
Test oil : ISO 4113

Combination No. : F 002 A02 039

Injection pump
Pump designation : PES6A95D320/3RS2881
EP type number : 9 410 037 215

Governor
Governor design. : RSV500...1100A0C919R
Governor no. : F 002 A20 229

Cust. part No. : 3932479

Customer-spec. information

Customer : CDC
Motor : 6BT
Power KW : 101.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Start of delivery blocking

*NW after s.o.d. : 7.00
Tolerance : + 0.50
Check
tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.25
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 94.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000s. : + - 3.0
 Spread
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000s. : 6.0

Rated speed rpm : 500
 Rack travel in mm : 5.10
 Tolerance mm : + - 0.10
 Del. quantity
 cm³/1000 strokes : 18.5
 Tolerance
 cm³/1000 strokes : + - 2.0
 Check tolerance
 cm³/1000s. : + - 4.5
 Spread
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000s. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + - 0.20
 governor spring
 pre-tension
 click setting x : 1.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure
 hPa : 900
 Del. quantity
 cm³/1000 strokes : 94.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000s. : + - 3.0
 Spread
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000s. : 6.0

CONTROL LEVER

control lever
 position degree : 92.0
 tolerance degree : + - 4.0

RATED SPEED
 rack travel mm : 10.20
 Rated speed rpm : 1170
 Tolerance 1/min : + - 5

rack travel mm : 5.40
 Rated speed rpm : 1235
 Tolerance 1/min : + - 5

rack travel mm : 0.85
 Tolerance mm : + - 0.55
 Rated speed rpm : 1350

rack travel mm : 5.40
 Rated speed rpm : 1235
 Tolerance 1/min : + - 15

LOW IDLE

control lever
 position degree : 75.0
 tolerance degree : + - 4.0

Control lever difference
 Grad : 17.0
 tolerance degree : + - 6.0

Setting point w/out bumper spring

Rated speed rpm : 500
 rack travel mm : 4.60
 Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT ~~mm~~ min. : > 19.00

Testing:

Rated speed rpm : 500
rack travel ~~mm~~ : 5.10
Tolerance ~~mm~~ : +~~-~~ 0.10

TORQUE CONTROL

Rated speed rpm : 1100
rack travel ~~mm~~ : 11.25
Tolerance ~~mm~~ : +~~-~~ 0.05

Rated speed rpm : 800
rack travel ~~mm~~ : 12.15
Tolerance ~~mm~~ : +~~-~~ 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 800
Pressure hPa : 900

Rated speed rpm : 800
Pressure hPa : -
rack travel ~~mm~~ : 11.30
Tolerance ~~mm~~ : +~~-~~ 0.20

MEASUREMENT

Rated speed rpm : 800
Pressure hPa : 650
rack travel ~~mm~~ : 11.65
Tolerance ~~mm~~ : +~~-~~ 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 900
Rated speed rpm : 800
Del. quantity cm³/1000 strokes : 107.5
Tolerance cm³/1000 strokes : +~~-~~ 2.0
Check tolerance cm³/1000S. : +~~-~~ 4.0

Aneroid pressure hPa : -

Rated speed rpm : 800
Del. quantity cm³/1000 strokes : 97.5
Tolerance cm³/1000 strokes : +~~-~~ 1.0
Check tolerance cm³/1000S. : +~~-~~ 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel ~~mm~~ : 20.50
Tolerance ~~mm~~ : +~~-~~ 0.50
Del. quantity cm³/1000 strokes : 120.5
Tolerance cm³/1000 strokes : +~~-~~ 10.0
Check tolerance cm³/1000S. : +~~-~~ 15.0

LOW IDLE

Rated speed rpm : 500
Rack travel in ~~mm~~ : 5.10
Tolerance ~~mm~~ : +~~-~~ 0.10
Del. quantity cm³/1000 strokes : 18.5
Tolerance cm³/1000 strokes : +~~-~~ 2.0
Check tolerance cm³/1000S. : +~~-~~ 4.5
Spread
Tolerance cm³/1000 strokes : 3.5
Check tolerance cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.03.98
Test oil : ISO 4113

Combination No. : F 002 A02 042

Injection pump
Pump designation : PES6A95D320/3RS2881
EP type number : 9 410 037 215

Governor
Governor design. : RSV500...1100AOC924R
Governor no. : F 002 A20 232

Cust. part No. : 3932477

Customer-spec. information

Customer : CDC
Motor : 6BT
Power KW : 82.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Start of delivery blocking

*NW after s.o.d. : 7.00
Tolerance : + 0.50
Check
tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 9.85
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 78.5

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000s. : + - 3.0

Spread

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000s. : 6.0

Rated speed rpm : 500

Rack travel in mm : 5.10

Tolerance mm : + - 0.10

Del. quantity
cm³/1000 strokes : 18.5

Tolerance
cm³/1000 strokes : + - 2.0

Check tolerance
cm³/1000s. : + - 4.5

Spread

Tolerance
cm³/1000 strokes : 3.5

Check tolerance

cm³/1000s. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + - 0.20

governor spring
pre-tension
click setting x : 2.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure
nr^a : -

Del. quantity
cm³/1000 strokes : 78.5

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000s. : + - 3.0

Spread

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000s. : 6.0

CONTROL LEVER

control lever
position degree : 95.0
tolerance degree : + - 4.0

RATED SPEED

rack travel mm : 8.80

Rated speed rpm : 1165

Tolerance 1/min : + - 5

Check
speed 1/min : + - 10

rack travel mm : 5.40

Rated speed rpm : 1225

Tolerance 1/min : + - 5

Check
speed 1/min : + - 10

rack travel mm : 0.85

Tolerance mm : + - 0.55

Rated speed rpm : 1400

rack travel mm : 5.40

Rated speed rpm : 1225

Tolerance 1/min : + - 15

Check
speed 1/min : + - 20

LOW IDLE

control lever
position degree : 80.0
tolerance degree : + - 4.0

Control lever difference
Grad : 15.0
tolerance degree : + - 6.0

Setting point w/out bumper spring

Rated speed rpm : 500

rack travel mm : 4.60
Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT min. : > 19.00

Testing:

Rated speed rpm : 500
rack travel mm : 5.10
Tolerance mm : + - 0.10

TORQUE CONTROL
Rated speed rpm : 1100
rack travel mm : 9.85
Tolerance mm : + - 0.05

Rated speed rpm : 800
rack travel mm : 10.90
Tolerance mm : + - 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 90.5
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + - 0.50
Del. quantity
cm³/1000 strokes : 120.5
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 15.0

LOW IDLE

Rated speed rpm : 500

Rack travel in mm : 5.10
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 18.5
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 4.5
Spred
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.02.98
Test oil : ISO 4113

Combination No. : F 002 A02 043

Injection pump
Pump designation : PES6A95D320/3RS2881
EP type number : 9 410 037 215

Governor
Governor design. : RSV500...1100AQC925R
Governor no. : F 002 A20 233

Cust. part No. : 3932478

Customer-spec. information

Customer : CDC
Motor : 6BT
Power KW : 90.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Start of delivery blocking

*NW after s.o.d. : 7.00
Tolerance : + 0.50
Check
tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.85
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 86.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 3.0

Spread

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 500

Rack travel in mm : 5.40
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 18.5

Tolerance
cm³/1000 strokes : + 2.0

Check tolerance
cm³/1000S. : + 4.5

Spread

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure
hPa : 900

Del. quantity
cm³/1000 strokes : 86.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 3.0

Spread

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

CONTROL LEVER

control lever
position degree : 94.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 9.80
Rated speed rpm : 1165

Tolerance 1/min : + 5

Check
speed 1/min : + 10

rack travel mm : 6.00
Rated speed rpm : 1220

Tolerance 1/min : + 5

Check
speed 1/min : + 10

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1350

rack travel mm : 6.00
Rated speed rpm : 1230

Tolerance 1/min : + 15

Check
speed 1/min : + 20

LOW IDLE

control lever
position degree : 80.0
tolerance degree : + 4.0

Control lever difference
Grad : 14.0

tolerance degree : + 6.0

Setting point w/out bumper spring

Rated speed rpm : 500
rack travel mm : 4.90
Tolerance mm : + - 0.10

Rated speed rpm : 100
CRT min. : > 19.00

Testing:

Rated speed rpm : 500
rack travel mm : 5.40
Tolerance mm : + - 0.10

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 10.85
Tolerance mm : + - 0.05

Rated speed rpm : 800
rack travel mm : 11.55
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 800
Pressure hPa : -

MEASUREMENT

Pressure hPa : 800
rack travel mm : 11.05
Tolerance mm : + - 0.30

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 900
Rated speed rpm : 800
Del. quantity cm³/1000 strokes : 96.0
Tolerance cm³/1000 strokes : + - 2.0
Check tolerance cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + - 0.50
Del. quantity cm³/1000 strokes : 120.5
Tolerance cm³/1000 strokes : + - 10.0
Check tolerance cm³/1000S. : + - 15.0

LOW IDLE

Rated speed rpm : 500
Rack travel in mm : 5.40
Tolerance mm : + - 0.10
Del. quantity cm³/1000 strokes : 18.5
Tolerance cm³/1000 strokes : + - 2.0
Check tolerance cm³/1000S. : + - 4.5
Spread Tolerance cm³/1000 strokes : 3.5
Check tolerance cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS**Note remarks**

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.02.98
Test oil : ISO 4113

Combination No. : F 002 A02 057

Injection pump
Pump designation : PES4A95D320/3RS2927
EP type number : F 002 A10 017

Governor
Governor design. : RSV475...1250A0C936R
Governor no. : F 002 A20 241

Cust. part No. : 3930145

Customer spec. information
Customer : CDC
Motor : 4BNA3.9
Power KW : 59.7

TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 8.50
Tolerance : + 0.50
Check tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.20
Tolerance mm : + 0.05

Del. quantity cm³/1000 strokes : 92.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 3.0
 Spread
 Tolerance cm³/1000 strokes : 3.5
 Check tolerance cm³/1000S. : 6.0
 Rated speed rpm : 475
 Rack travel in mm : 5.00
 Tolerance mm : + 0.10
 Del. quantity cm³/1000 strokes : 13.5
 Tolerance cm³/1000 strokes : + 2.0
 Check tolerance cm³/1000S. : + 4.5
 Spread
 Tolerance cm³/1000 strokes : 3.5
 Check tolerance cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800

Rack travel in mm : 0.50
 Tolerance mm : + 0.20

governor spring
 pre-tension
 click setting x : 3.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure hPa : -
 Del. quantity cm³/1000 strokes : 92.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 3.0
 Spread
 Tolerance cm³/1000 strokes : 3.5
 Check tolerance cm³/1000S. : 6.0

CONTROL LEVER

control lever
 position degree : 91.0
 tolerance degree : + 4.0

RATED SPEED
 rack travel mm : 9.20
 Rated speed rpm : 1340
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1400
 Tolerance 1/min : + 5

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1475

rack travel mm : 4.00
 Rated speed rpm : 1400
 Tolerance 1/min : + 15

LOW IDLE

control lever
 position degree : 70.0
 tolerance degree : + 4.0

Control lever difference
 Grad : 21.0
 tolerance degree : + 6.0

Setting point w/out bumper spring

Rated speed rpm : 475
 rack travel mm : 4.50
 Tolerance mm : + 0.10

Rated speed rpm : 100

CRT ~~min.~~ min. : > 19.00

Testing:

Rated speed rpm : 475
rack travel ~~mm~~ : 5.00
Tolerance ~~mm~~ : +~~-~~ 0.10

TORQUE CONTROL

Rated speed rpm : 1250
rack travel ~~mm~~ : 10.20
Tolerance ~~mm~~ : +~~-~~ 0.05

Rated speed rpm : 600

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel ~~mm~~ : 20.50
Tolerance ~~mm~~ : +~~-~~ 0.50
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : +~~-~~ 10.0
Check tolerance
cm³/1000S. : +~~-~~ 15.0

LOW IDLE

Rated speed rpm : 475

Rack travel in ~~mm~~ : 5.00
Tolerance ~~mm~~ : +~~-~~ 0.10
Del. quantity
cm³/1000 strokes : 13.5
Tolerance
cm³/1000 strokes : +~~-~~ 2.0
Check tolerance
cm³/1000S. : +~~-~~ 4.5
Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS**Note remarks**

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 04.03.98
Test oil : ISO 4113

Combination No. : F 002 A02 061

Injection pump
Pump designation : PES4A95D320/3RS2927
EP type number : F 002 A10 017

Governor
Governor design. : RSV475...1100A2C941R
Governor no. : F 002 A20 242

Cust. part No. : 3930143

Customer-spec. information
Customer : CDC
Motor : 4BNA3.9
Power KW : 54.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 9.50
Tolerance : + 0.50
Check tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.55
Tolerance mm : + 0.05

Rated speed rpm : 515
 Rack travel in mm : 5.40
 Tolerance mm : + - 0.20
 Del. quantity cm³/1000 strokes : 13.5
 Tolerance cm³/1000 strokes : + - 2.0
 Check tolerance cm³/1000S. : + - 4.5
 Spread
 Tolerance cm³/1000 strokes : 3.5
 Check tolerance cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + - 0.20

governor spring
 pre-tension
 click setting x : 3.00

CONTROL LEVER

control lever
 position degree : 100.0
 tolerance degree : + - 4.0

RATED SPEED
 rack travel mm : 9.50
 Rated speed rpm : 1160
 Tolerance 1/min : + - 5

rack travel mm : 4.00
 Rated speed rpm : 1225
 Tolerance 1/min : + - 5

rack travel mm : 0.85
 Tolerance mm : + - 0.55
 Rated speed rpm : 1325

rack travel mm : 4.00
 Rated speed rpm : 1235
 Tolerance 1/min : + - 15

LOW IDLE

control lever
 position degree : 81.0
 tolerance degree : + - 4.0

Control lever difference
 Grad : 19.0
 tolerance degree : + - 6.0

Setting point w/out bumper spring

Rated speed rpm : 515
 rack travel mm : 4.90
 Tolerance mm : + - 0.20

Rated speed rpm : 100

CRT mm min. : > 19.00

Testing:

Rated speed rpm : 515
 rack travel mm : 5.40
 Tolerance mm : + - 0.20

TORQUE CONTROL
 Rated speed rpm : 1100
 rack travel mm : 10.55
 Tolerance mm : + - 0.05

Rated speed rpm : 600
 rack travel mm : 10.55
 Tolerance mm : + - 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -
 Rated speed rpm : 600
 Del. quantity cm³/1000 strokes : 82.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 3.0
 Spread

Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + - 0.50
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 15.0

LOW IDLE

Rated speed rpm : 515
Rack travel in mm : 5.40
Tolerance mm : + - 0.20
Del. quantity
cm³/1000 strokes : 13.5
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 4.5
Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS**Note remarks**

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 05.03.98
Test oil : ISO 4113

Combination No. : 0 401 846 370

Injection pump
Pump designation : PE6P110A320RS157
EP type number : 0 411 816 108

Governor
Governor design. : RQV250...550/1150PA1
: 40R
Governor no. : 0 421 813 184

Cust. part No. : 516208005011

Customer-spec. information

Customer : STEYR
Motor : 7 FA
Power KW : 235.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 120
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 2.05
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery mark

Tolerance : + 0.50
Check tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.25
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 170.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 250

Rack travel in mm : 6.30
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 16.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 5.5

Spread

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1150

Rack travel in mm : 16.50
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150

Aneroid pressure

hPa : 900

Del. quantity
cm³/1000 strokes : 170.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 122.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.20
Rated speed rpm : 1195
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1275
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 66.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 7.50

Testing:

Rated speed rpm : 250
rack travel mm : 6.30
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 440
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1150

rack travel mm : 12.25
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 12.25
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.60
Tolerance mm : + - 0.15

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 300
rack travel mm : 11.00
Tolerance mm : + - 0.10

Pressure hPa : 380
rack travel mm : 11.75
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1150
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Check tolerance
cm³/1000S. : 9.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 16.00
Tolerance mm : + - 0.50
Del. quantity
cm³/1000 strokes : 215.0

Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 250
Rack travel in mm : 6.30
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 5.5
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.03.98
Test oil : ISO 4113

Combination No. : 0 401 846 974

Injection pump
Pump designation : PE6P110A720LS3283
EP type number : 0 411 816 786

Governor
Governor design. : RQ250/1000PA1067
Governor no. : 0 421 801 684

Cust. part No. :

Customer-spec. information
Customer : IVECO-PEGASO
Motor : 95 TEGZ
Power KW : 165.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.85
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 250

Rack travel in mm : 4.60
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : + 2.5

Check tolerance
cm³/1000S. : + 5.0

Spread
Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 550

Rack travel in mm : 16.00
Tolerance mm : + - 0.60

RATED SPEED
rack travel mm : 9.80
Rated speed rpm : 1048
Tolerance 1/min : + - 8

rack travel mm : 4.00
Rated speed rpm : 1115
Tolerance 1/min : + - 15

rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 73.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 6.10

Testing:

Rated speed rpm : 250
rack travel mm : 4.60
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : + - 20

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 11.35
Tolerance mm : + - 0.05

Rated speed rpm : 980
rack travel mm : 11.30
Tolerance mm : + - 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 10.85
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 8.10
Tolerance mm : + - 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 310
rack travel mm : 8.90
Tolerance mm : + - 0.10

Pressure hPa : 520
rack travel mm : 10.15
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 980
Del. quantity
cm³/1000 strokes : 178.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 118.0
Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : ← 3.5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : ← 10.0
Check tolerance
cm³/1000S. : ← 14.0

LOW IDLE

Rated speed rpm : 250
Rack travel in mm : 4.60
Tolerance mm : ← 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : ← 2.5
Check tolerance
cm³/1000S. : ← 5.0
Spred
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.03.98
Test oil : ISO 4113

Combination No. : 0 401 876 796

Injection pump
Pump designation : PE6P120A320LS3815
: -13
EP type number : 0 411 826 782

Governor
Governor design. : RSV675...1050POA820
: -12
Governor no. : 0 421 833 401

Cust. part No. : 0240745302

Customer-spec. information
Customer : MB-NFZ
Motor : OM441A
Power KW : 162.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 6-3-5-2-4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery mark

Tolerance : + 0.10
Check tolerance °NW : + 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1080

Rack travel in mm : 10.00
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 146.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000s. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000s. : 9.0

Rated speed rpm : 675
 Rack travel in mm : 3.40
 Tolerance mm : \pm 0.10
 Del. quantity cm³/1000 strokes : 17.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000s. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000s. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : \pm 0.20
 governor spring pre-tension click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1080
 Aneroid pressure hPa : -
 Del. quantity cm³/1000 strokes : 146.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000s. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000s. : 9.0

CONTROL LEVER

control lever position degree : 93.0
 tolerance degree : \pm 4.0

LOW IDLE

control lever position degree : 77.0
 tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 100
 CRT rev/min. : > 19.50

...ing:

Rated speed rpm : 675
 rack travel mm : 3.40
 Tolerance mm : \pm 0.10

rack travel mm : 2.00
 Rated speed rpm : 705
 Tolerance 1/min : \pm 30

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 1080
rack travel mm : 10.00
Tolerance mm : + - 0.05

Rated speed rpm : 700
rack travel mm : 11.30
Tolerance mm : + - 0.10

Rated speed rpm : 925
rack travel mm : 10.60
Tolerance mm : + - 0.10

Rated speed rpm : 500
rack travel mm : 11.30
Tolerance mm : + - 0.15

Rack travel in mm : 3.40
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 177.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

rack travel mm : 10.60
Tolerance mm : + - 0.10

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 675

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.03.98
Test oil : ISO 4113

Combination No. : 0 402 036 755

Injection pump
Pump designation : PES6P120A720/3LS3255
: -2
EP type number : 0 412 026 768

Governor
Governor design. : RQ300/1000PA813-23
Governor no. : 0 421 801 710

Cust. part No. : 51.11103-7336

Customer-spec. information

Customer : MAN
Motor : D2866LU08
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.75
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 15.00
Tolerance mm : + 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300

Tolerance : + 0.30
Check
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.90
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 205.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance cm³/1000S. : + - 4.0
 Spread _____
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

 Rated speed rpm : 300
 Rack travel in mm : 6.30
 Tolerance mm : + - 0.10
 Del. quantity cm³/1000 strokes : 20.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spread
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1050
 guide sleeve travel mm : 7.31
 Tolerance mm : + - 0.10
 Rated speed rpm : 300
 guide sleeve travel mm : 2.15
 Tolerance mm : + - 0.10
 Rated speed rpm : 1000
 guide sleeve travel mm : 7.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 383
 guide sleeve travel mm : 5.04
 Tolerance mm : + - 0.10
 Rated speed rpm : 480
 guide sleeve travel mm : 7.00
 Tolerance mm : + - 0.10

Rated speed rpm : 1220
 guide sleeve travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

control lever position degree : 109
 Rated speed rpm : 550
 Rack travel in mm : 15.50
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 205.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

CONTROL LEVER

control lever position degree : 285.0
 tolerance degree : + - 4.0

RATED SPEED
 rack travel mm : 12.90
 Rated speed rpm : 1053
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1150
 Tolerance 1/min : + - 15
 rack travel mm : 0.50
 Tolerance mm : + - 0.50
 Rated speed rpm : 1260

LOW IDLE

control lever
position degree : 255.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
CRT mm min. : > 9.80

Testing:

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 380
Tolerance 1/min : + - 20

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.90
Tolerance mm : + - 0.05

Rated speed rpm : 1000
rack travel mm : 13.90
Tolerance mm : + - 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.90
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 11.35
Tolerance mm : + - 0.15

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 450
rack travel mm : 13.30
Tolerance mm : + - 0.15

Pressure hPa : 110
rack travel mm : 11.65
Tolerance mm : + - 0.05

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 220

Check
speed 1/min : > 80
Check
speed 1/min : < 280

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 212.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 6.30
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000s. : + 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.03.98
Test oil : ISO 4113

Combination No. : 0 402 036 758

Injection pump
Pump designation : PES6P120A720/3LS3255
: -4
EP type number : 0 412 026 775

Governor
Governor design. : RQ300/1000PA813-23
Governor no. : 0 421 801 710

Cust. part No. : 51.11103-7387

Customer-spec. information

Customer : MAN
Motor : D2866LU08
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.75
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 15.00
Tolerance mm : + 0.50

Firing order : 6-2-4-1-5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.90
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 205.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance cm³/1000S. : + 4.0
 Spread _____
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

 Rated speed rpm : 300
 Rack travel in mm : 6.30
 Tolerance mm : + 0.10
 Del. quantity cm³/1000 strokes : 20.0
 Tolerance cm³/1000 strokes : + 3.0
 Check tolerance cm³/1000S. : + 6.0
 Spread
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1050
 guide sleeve travel mm : 7.31
 Tolerance mm : + 0.10
 Rated speed rpm : 300
 guide sleeve travel mm : 2.15
 Tolerance mm : + 0.10
 Rated speed rpm : 1000
 guide sleeve travel mm : 7.00
 Tolerance mm : + 0.10
 Rated speed rpm : 383
 guide sleeve travel mm : 5.04
 Tolerance mm : + 0.10
 Rated speed rpm : 480
 guide sleeve travel mm : 7.00
 Tolerance mm : + 0.10

Rated speed rpm : 1220
 guide sleeve travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever position degree : 109
 Rated speed rpm : 550
 Rack travel in mm : 15.50
 Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 205.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

CONTROL LEVER

control lever position degree : 285.0
 tolerance degree : + 4.0

RATED SPEED
 rack travel mm : 12.90
 Rated speed rpm : 1053
 Tolerance 1/min : + 8

rack travel mm : 4.00
 Rated speed rpm : 1150
 Tolerance 1/min : + 15

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1260

LOW IDLE

control lever
position degree : 255.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
CRT mm min. : > 9.80

Testing:

Rated speed rpm : 300
rack travel mm : 6.30
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 380
Tolerance 1/min : + - 20

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.90
Tolerance mm : + - 0.05

Rated speed rpm : 1000
rack travel mm : 13.90
Tolerance mm : + - 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.90
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 11.35
Tolerance mm : + - 0.15

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 450
rack travel mm : 13.30
Tolerance mm : + - 0.15

Pressure hPa : 110
rack travel mm : 11.65
Tolerance mm : + - 0.05

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 220

Check
speed 1/min : > 80
Check
speed 1/min : < 280

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 212.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 6.30
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.11.97
Test oil : ISO 4113

Combination No. : 0 402 046 234

Injection pump
Pump designation : PES6P110A820LS442
EP type number : 0 412 016 060

Governor
Governor design. : RQ300/1100PA327-5
Governor no. : 0 421 801 163

Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : 407 STEHEND
Power KW : 162.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Overflow quantity
min. l/h : 110
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.25
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery mark

Tolerance : + 0.10
Check tolerance °NW : + 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.05
 Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 117.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000s. : + - 3.5
 Spread
 Tolerance cm³/1000 strokes : 4.0
 Check tolerance cm³/1000s. : 8.0
 Rated speed rpm : 300
 Rack travel in mm : 6.10
 Tolerance mm : + - 0.10
 Del. quantity cm³/1000 strokes : 15.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000s. : + - 5.5
 Spread
 Tolerance cm³/1000 strokes : 4.0
 Check tolerance cm³/1000s. : 7.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1153
 guide sleeve travel mm : 7.63
 Tolerance mm : + - 0.15
 Rated speed rpm : 300
 guide sleeve travel mm : 1.87
 Tolerance mm : + - 0.20
 Rated speed rpm : 1100
 guide sleeve travel mm : 7.00
 Tolerance mm : + - 0.10

Rated speed rpm : 373
 guide sleeve travel mm : 4.84
 Tolerance mm : + - 0.10
 Rated speed rpm : 460
 guide sleeve travel mm : 7.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 1250
 guide sleeve travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

control lever position degree : - 1
 Rated speed rpm : 600

Rack travel in mm : 13.50
 Tolerance mm : + - 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
 Aneroid pressure hPa : -
 Del. quantity cm³/1000 strokes : 117.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000s. : + - 3.5
 Spread
 Tolerance cm³/1000 strokes : 4.0
 Check tolerance cm³/1000s. : 8.0

RATED SPEED
 rack travel mm : 10.00
 Rated speed rpm : 1145
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1190
 Tolerance 1/min : + - 15
 rack travel mm : 1.00
 Tolerance mm : + - 1.00
 Rated speed rpm : 1300

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 7.50

Testing:

Rated speed rpm : 300
rack travel mm : 6.10
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 370
Tolerance 1/min : + - 20

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 11.05
Tolerance mm : + - 0.05

Rated speed rpm : 600
rack travel mm : 11.05
Tolerance mm : + - 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -

Rated speed rpm : 600

Del. quantity

cm³/1000 strokes : 95.0

Tolerance

cm³/1000 strokes : + - 2.0

Check tolerance

cm³/1000S. : + - 5.0

Spread

Tolerance

cm³/1000 strokes : 6.0

Check tolerance

cm³/1000S. : 9.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm³/1000 strokes : 140.0

Tolerance

cm³/1000 strokes : + - 10.0

Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 6.10

Tolerance mm : + - 0.10

Del. quantity

cm³/1000 strokes : 15.0

Tolerance

cm³/1000 strokes : + - 3.0

Check tolerance

cm³/1000S. : + - 5.5

Spread

Tolerance

cm³/1000 strokes : 4.0

Check tolerance

cm³/1000S. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS**Note remarks**

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 04.03.98
Test oil : ISO 4113

Combination No. : 0 402 046 882

Injection pump
Pump designation : PES6P110A320RS3329
EP type number : 0 412 016 743

Governor
Governor design. : RQV325...1250PA1385
Governor no. : 0 421 814 209

Cust. part No. : 1351707

Customer-spec. information

Customer : DAF
Motor : NS177M-CBP
Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 165
Tolerance l/h : + 5.0

Test nozzle holder
assembly : 0 432 191 593

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 12.80
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2
: - 4

Phasing : 0- 60- 120- 180
: - 240- 300

Tolerance : + 0.50
Check
tolerance °NW : + 0.70

Start of delivery mark

Tolerance : + 0.10
Check
tolerance °NW : + 0.70

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.80
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 154.5

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 325

Rack travel in mm : 4.40

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 26.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1303

guide sleeve

travel mm : 10.33

Tolerance mm : + 0.15

Rated speed rpm : 325

guide sleeve

travel mm : 1.25

Tolerance mm : + 0.20

Rated speed rpm : 865

guide sleeve

travel mm : 5.43

Tolerance mm : + 0.25

Rated speed rpm : 520

guide sleeve
travel mm : 3.02

Tolerance mm : + 0.25

Rated speed rpm : 1510

guide sleeve

travel mm : 13.50

Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1349

Rack travel in mm : 11.80

Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000

Aneroid pressure

hPa : 1500

Del. quantity
cm³/1000 strokes : 154.5

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever

position degree : 122.0

tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.80

Rated speed rpm : 1290

Tolerance 1/min : + 5

Check

speed 1/min : + 10

rack travel mm : 4.00

Rated speed rpm : 1375

Tolerance 1/min : + 15

Check

speed 1/min : + 20

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 76.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. : > 6.00

Testing:

Rated speed rpm : 325
rack travel mm : 4.40
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 375
Tolerance 1/min : \pm 50

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 12.80
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1500
rack travel mm : 12.80
Tolerance mm : \pm 0.10

Rated speed rpm : 600
Pressure hPa : -
rack travel mm : 7.10
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 600
Pressure hPa : 210
rack travel mm : 8.60
Tolerance mm : \pm 0.10

Pressure hPa : 410
rack travel mm : 11.40
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 93.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

LOW IDLE

Rated speed rpm : 325
Rack travel in mm : 4.40
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.03.98
Test oil : ISO 4113

Combination No. : 0 402 076 058

Injection pump
Pump designation : PES6P120A700RS532-1
EP type number : 0 412 026 061

Governor
Governor design. : RSV300...1200POA552
Governor no. : 0 421 833 368

Cust. part No. :

Customer-spec. information

Customer : IVECO-AIFO
Motor : 8361 SRM 37

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 2.5

x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 13.55
Tolerance mm : ± 0.05

Rated speed rpm : 300

Rack travel in mm : 4.80
Tolerance mm : ± 0.10

Det. quantity
 cm³/1000 strokes : 20.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + - 0.20
 governor spring
 pre-tension
 click setting x : 4.00

CONTROL LEVER

control lever
 position degree : 102.0
 tolerance degree : + - 4.0
 RATED SPEED
 rack travel mm : 12.50
 Rated speed rpm : 1245
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1310
 Tolerance 1/min : + - 15
 rack travel mm : 0.85
 Tolerance mm : + - 0.55
 Rated speed rpm : 1450

LOW IDLE

control lever
 position degree : 70.0
 tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 300
 rack travel mm : 4.30
 Tolerance mm : + - 0.10

Testing:

Rated speed rpm : 300
 rack travel mm : 4.80
 Tolerance mm : + - 0.10

rack travel mm : 2.00
 Rated speed rpm : 375
 Tolerance 1/min : + - 30

TORQUE CONTROL
 Rated speed rpm : 1200
 rack travel mm : 13.55
 Tolerance mm : + - 0.05

Rated speed rpm : 550
 rack travel mm : 13.60
 Tolerance mm : + - 0.10

Rated speed rpm : 350
 rack travel mm : 15.00
 Tolerance mm : + - 0.30

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 900
 rack travel mm : 13.60
 Tolerance mm : + - 0.10

Rated speed rpm : 500
 Pressure hPa : -
 rack travel mm : 12.10
 Tolerance mm : + - 0.10

MEASUREMENT

Rated speed rpm : 500
 Pressure hPa : 400
 rack travel mm : 12.95
 Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Rack travel mm : 15.00
Tolerance mm : + - 0.30

Aneroid pressure
hPa : -
Rated speed rpm : 500

STARTING FUEL DELIVERY

ESS test: With 12 V solenoid activated,
rack must reach start position in max.
control lever setting.

Rated speed rpm : 100

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 4.80
Tolerance mm : + - 0.10

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : + - 3.0

Check tolerance
cm³/1000s. : + - 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.03.98
Test oil : ISO 4113

Combination No. : 0 402 076 060

Injection pump
Pump designation : PES6P110A720RS534
EP type number : 0 412 016 077

Governor
Governor design. : RSV450...1050P1A572
Governor no. : 0 421 833 428

Cust. part No. :

Customer-spec. information
Customer : IVECO-FRANCE
Motor : 8365.25.533

TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 155
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 2.05
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 10.05
Tolerance mm : + 0.05

Rated speed rpm : 450
 Rack travel in mm : 5.00
 Tolerance mm : + - 0.10
 Del. quantity cm³/1000 strokes : 18.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000s. : + - 6.0
 Spread
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000s. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + - 0.20
 governor spring pre-tension click setting x : 4.00

CONTROL LEVER

control lever position degree : 108.0
 tolerance degree : + - 4.0
 RATED SPEED
 rack travel mm : 9.00
 Rated speed rpm : 1095
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1130
 Tolerance 1/min : + - 15
 rack travel mm : 0.85
 Tolerance mm : + - 0.55
 Rated speed rpm : 1300
 rack travel mm : 4.00
 Rated speed rpm : 1145

Tolerance 1/min : + - 15

LOW IDLE

control lever position degree : 80.0
 tolerance degree : + - 4.0
 Setting point w/out bumper spring

Rated speed rpm : 450
 rack travel mm : 4.50
 Tolerance mm : + - 0.10

Testing:

Rated speed rpm : 450
 rack travel mm : 5.00
 Tolerance mm : + - 0.10
 rack travel mm : 2.00
 Rated speed rpm : 560
 Tolerance 1/min : + - 30

TORQUE CONTROL

Rated speed rpm : 1050
 rack travel mm : 10.05
 Tolerance mm : + - 0.05
 Rated speed rpm : 550
 rack travel mm : 10.10
 Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 900
 rack travel mm : 10.10
 Tolerance mm : + - 0.10

Rated speed rpm : 500
 Pressure hPa : -
 rack travel mm : 9.30
 Tolerance mm : + - 0.10

MEASUREMENT

Rated speed rpm : 500
 Pressure hPa : 450

Rack travel mm : 9.91
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 121.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 104.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated,
rack must reach start position in max.
control lever setting.

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 450
Rack travel in mm : 5.00
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : + - 3.0

Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.02.98
Test oil : ISO 4113

Combination No. : 0 402 646 669

Injection pump
Pump designation : PE6P130A720RS7197
EP type number : 0 412 636 815

Governor
Governor design. : RQV425...975PA1292
Governor no. : 0 421 814 184

Cust. part No. :

Customer-spec. information
Customer : IVECO-FRANCE
Motor : 8215.42.985
Power KW : 260.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

Start of delivery mark

Check
tolerance °NW : + 0.40

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 975

Rack travel in mm : 13.45
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 257.0

Tolerance
 $\text{cm}^3/1000$ strokes : \pm 1.0

 Check tolerance
 $\text{cm}^3/1000\text{s.}$: \pm 4.0

 Spread

 Tolerance
 $\text{cm}^3/1000$ strokes : 5.0

 Check tolerance
 $\text{cm}^3/1000\text{s.}$: 8.0

 Rated speed rpm : 425
 Rack travel in mm : 5.00
 Tolerance mm : \pm 0.10
 Del. quantity
 $\text{cm}^3/1000$ strokes : 22.0
 Tolerance
 $\text{cm}^3/1000$ strokes : \pm 3.0
 Check tolerance
 $\text{cm}^3/1000\text{s.}$: \pm 7.0
 Spread

 Tolerance
 $\text{cm}^3/1000$ strokes : 8.0
 Check tolerance
 $\text{cm}^3/1000\text{s.}$: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1034
 guide sleeve
 travel mm : 7.23
 Tolerance mm : \pm 0.15

 Rated speed rpm : 425
 guide sleeve
 travel mm : 2.40
 Tolerance mm : \pm 0.20

 Rated speed rpm : 860
 guide sleeve
 travel mm : 5.34
 Tolerance mm : \pm 0.25

 Rated speed rpm : 580
 guide sleeve
 travel mm : 3.68
 Tolerance mm : \pm 0.25

 Rated speed rpm : 1139

guide sleeve
 travel mm : 10.00
 Tolerance mm : \pm 0.25

 Rated speed rpm : 1220
 guide sleeve
 travel mm : 11.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1125

Rack travel in mm : 10.00
 Tolerance mm : \pm 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 975
 Aneroid pressure
 hPa : 900
 Del. quantity
 $\text{cm}^3/1000$ strokes : 257.0
 Tolerance
 $\text{cm}^3/1000$ strokes : \pm 1.0
 Check tolerance
 $\text{cm}^3/1000\text{s.}$: \pm 4.0
 Spread

 Tolerance
 $\text{cm}^3/1000$ strokes : 5.0
 Check tolerance
 $\text{cm}^3/1000\text{s.}$: 8.0

CONTROL LEVER

control lever
 position degree : 119.0
 tolerance degree : \pm 4.0

RATED SPEED
 rack travel mm : 12.40
 Rated speed rpm : 1020
 Tolerance 1/min : \pm 5

rack travel mm : 4.00
 Rated speed rpm : 1080
 Tolerance 1/min : \pm 15

rack travel mm : 0.50
 Tolerance mm : \pm 0.50
 Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 94.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 325

CRT mm min. : > 6.50

Testing:

Rated speed rpm : 425
rack travel mm : 5.00
Tolerance mm : \pm 0.10

Rated speed rpm : 470

TORQUE CONTROL

Rated speed rpm : 975
rack travel mm : 13.45
Tolerance mm : \pm 0.05

Rated speed rpm : 550
rack travel mm : 13.50
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 13.50
Tolerance mm : \pm 0.10

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.90
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 470
rack travel mm : 11.50
Tolerance mm : \pm 0.20

Pressure hPa : 550
rack travel mm : 12.75

Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 267.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 181.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated,
rack must reach start position in max.
control lever setting.

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 270.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 425
Rack travel in mm : 5.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000s. : + 7.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.03.98
Test oil : ISO 4113

Combination No. : 0 402 646 763

Injection pump
Pump designation : PE6P120A320LS7834
: -10
EP type number : 0 412 626 853

Governor
Governor design. : RQV300...1050PA1065
: -2
Governor no. : 0 421 814 135

Cust. part No. : 0260743702

Customer-spec. information

Customer : MB-NFZ
Motor : 0.9401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 220
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

Start of delivery mark

Tolerance : + 0.10
Check
tolerance °NW : + 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80
 Tolerance mm : + 0.05
 Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 Rated speed rpm : 300
 Rack travel in mm : 5.20
 Tolerance mm : + 0.10
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : + 3.0
 Check tolerance cm³/1000S. : + 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1108
 guide sleeve travel mm : 9.82
 Tolerance mm : + 0.25
 Rated speed rpm : 300
 guide sleeve travel mm : 1.13
 Tolerance mm : + 0.25
 Rated speed rpm : 370
 guide sleeve travel mm : 2.00
 Tolerance mm : + 0.25

Rated speed rpm : 420
 guide sleeve travel mm : 2.49
 Tolerance mm : + 0.25
 Rated speed rpm : 750
 guide sleeve travel mm : 4.87
 Tolerance mm : + 0.25
 Rated speed rpm : 1310
 guide sleeve travel mm : 13.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever position degree : - 1
 Rated speed rpm : 1200
 Rack travel in mm : 13.80
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
 Aneroid pressure hPa : 1000
 Del. quantity cm³/1000 strokes : 230.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

CONTROL LEVER

control lever position degree : 104.0
 tolerance degree : + 4.0

RATED SPEED
 rack travel mm : 13.80
 Rated speed rpm : 1095
 Tolerance 1/min : + 5
 rack travel mm : 4.00
 Rated speed rpm : 1195

Tolerance 1/min : + 15
 rack travel mm : 0.75
 Tolerance mm : + 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever
 position degree : 68.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT min. : > 8.10

Testing:

Rated speed rpm : 300
 rack travel mm : 5.20
 Tolerance mm : + 0.10

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 550
 rack travel mm : 14.80
 Tolerance mm : + 0.05

Rated speed rpm : 1050
 rack travel mm : 14.80
 Tolerance mm : + 0.10

Rated speed rpm : 700
 rack travel mm : 14.80
 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
 Pressure hPa : 1000
 rack travel mm : 14.80
 Tolerance mm : + 0.05

Rated speed rpm : 400
 Pressure hPa : -
 rack travel mm : 10.50
 Tolerance mm : + 0.15

MEASUREMENT

Rated speed rpm : 400
 Pressure hPa : 400
 rack travel mm : 12.90
 Tolerance mm : + 0.20

Pressure hPa : 600
 rack travel mm : 14.15
 Tolerance mm : + 0.20

Start interlock

Rated speed rpm : > 100
 Rated speed rpm : < 220

Check
 speed 1/min : > 80
 Check
 speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1000
 Rated speed rpm : 1050
 Del. quantity
 cm³/1000 strokes : 227.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/100CS. : 12.0

rack travel mm : 14.80
 Tolerance mm : + 0.05

Aneroid pressure

hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 129.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0

Check tolerance
cm³/1000s. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000s. : + - 19.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 5.20
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000s. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000s. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.10.97
Test oil : ISO 4113

Combination No. : 0 402 648 703

Injection pump
Pump designation : PE8P120A320LS7880
EP type number : 0 412 628 889

Governor
Governor design. : RGV350...1050PA1352
Governor no. : 0 421 814 197

Cust. part No. : 0270747202

Customer-spec. information

Customer : MB-NFZ
Motor : OM442 LA euromot
Power KW : 405.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 200
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 2 568 890 1105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 4.75
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3
: - 5- 4- 1

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery mark

Tolerance : + 0.10
Check tolerance °NW : + 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 15.00
 Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 282.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0
 Rated speed rpm : 350
 Rack travel in mm : 5.70
 Tolerance mm : \pm 0.10
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : \pm 3.0
 Check tolerance cm³/1000S. : \pm 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1110
 guide sleeve travel mm : 8.10
 Tolerance mm : \pm 0.15
 Rated speed rpm : 350
 guide sleeve travel mm : 1.48
 Tolerance mm : \pm 0.20
 Rated speed rpm : 900
 guide sleeve travel mm : 5.69
 Tolerance mm : \pm 0.25

Rated speed rpm : 580
 guide sleeve travel mm : 3.62
 Tolerance mm : \pm 0.25
 Rated speed rpm : 1204
 guide sleeve travel mm : 10.00
 Tolerance mm : \pm 0.25
 Rated speed rpm : 1300
 guide sleeve travel mm : 11.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

control lever position degree : - 1
 Rated speed rpm : 1154
 Rack travel in mm : 14.00
 Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure hPa : 1300
 Del. quantity cm³/1000 strokes : 282.0
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 4.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 9.0

CONTROL LEVER

control lever position degree : 119.0
 tolerance degree : \pm 4.0

RATED SPEED
 rack travel mm : 14.00
 Rated speed rpm : 1098
 Tolerance 1/min : \pm 8
 rack travel mm : 4.00
 Rated speed rpm : 1190

Tolerance 1/min : + 15
rack travel mm : 0.75
Tolerance mm : + - 0.75
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 67.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 250

CRT mm min. : > 7.50

Testing:

Rated speed rpm : 350
rack travel mm : 5.70
Tolerance mm : + - 0.10

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 15.00
Tolerance mm : + - 0.05

Rated speed rpm : 600
rack travel mm : 15.00
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : -

MEASUREMENT

Pressure hPa : 500
rack travel mm : 1.40
Tolerance mm : + - 0.05

Pressure hPa : 1000
rack travel mm : 5.80
Tolerance mm : + - 0.20

Start interlock

Rated speed rpm : > 210
Rated speed rpm : < 270

Check
speed 1/min : > 190
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1300
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 298.5
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 132.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

REDUCED QUANTITY

Aneroid pressure
hPa : 1300
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 225.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 280.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 350
Rack travel in mm : 5.70
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.12.97
Test oil : ISO 4113

Combination No. : 0 402 666 805

Injection pump
Pump designation : PE6P120A320/3LS7914
EP type number : B 412 626 968

Governor
Governor design. : RSV600...1050POA642
Governor no. : 0 421 833 556

Cust. part No. : 0280743702

Customer-spec. information
Customer : MB-NFZ
Motor : OM 441 LA
Power KW : 300.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 220
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 4.75
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 19.00
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-45-120-165-240
: -285
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery mark

Tolerance : + 0.10
Check tolerance °NW : + 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm : 13.70
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 251.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 600

Rack travel in mm : 2.00
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1075

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 251.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 88.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 12.70

Rated speed rpm : 1115
Tolerance 1/min : + 5

Check
speed 1/min : + 10

LOW IDLE

control lever
position degree : 71.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 600
rack travel mm : 2.00

Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 630

Tolerance 1/min : + 30

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 1075

rack travel mm : 13.70

Tolerance mm : + 0.05

Rated speed rpm : 800

Rack travel mm : 14.75
Tolerance mm : + - 0.10

Rated speed rpm : 1000
Rack travel mm : 14.35
Tolerance mm : + - 0.15

End of test specification sheet

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 291.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000s. : + - 6.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 290.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000s. : + - 19.0

LOW IDLE

Rated speed rpm : 600
Rack travel in mm : 2.00
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000s. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.02.98
Test oil : ISO 4113

Combination No. : 0 402 746 633

Injection pump
Pump designation : PES6P120A720RS7366
EP type number : 0 412 726 933

Governor
Governor design. : RQ300/1050PA1344
Governor no. : 0 421 801 821

Cust. part No. :

Customer-spec. information

Customer : IVECO-FRANCE
Motor : 8460.41R.7143
Power KW : 214.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 160
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery mark

Check tolerance °NW : + 0.40

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.55

Tolerance mm : + 0.05
 Del. quantity cm³/1000 strokes : 234.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 Rated speed rpm : 300
 Rack travel in mm : 6.30
 Tolerance mm : + 0.10
 Del. quantity cm³/1000 strokes : 23.0
 Tolerance cm³/1000 strokes : + 3.0
 Check tolerance cm³/1000S. : + 6.0
 Spread
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : 109
 Rated speed rpm : 500
 Rack travel in mm : 20.00
 Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure hPa : 1200

Del. quantity cm³/1000 strokes : 234.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 RATED SPEED
 rack travel mm : 10.50
 Rated speed rpm : 1103
 Tolerance 1/min : + 8
 Check speed 1/min : + 13
 rack travel mm : 4.00
 Rated speed rpm : 1175
 Tolerance 1/min : + 15
 Check speed 1/min : + 20
 rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1350

LOW IDLE

control lever
 position degree : 71.0
 tolerance degree : + 4.0
 Setting point w/out bumper spring
 Rated speed rpm : 200
 CRT mm min. : > 7.80
 Testing:
 Rated speed rpm : 300
 rack travel mm : 6.30
 Tolerance mm : + 0.10
 rack travel mm : 2.00
 Rated speed rpm : 395
 Tolerance 1/min : + 20

TORQUE CONTROL
 Rated speed rpm : 1050
 rack travel mm : 11.55

Tolerance \pm : \pm 0.05

Rated speed rpm : 425
rack travel mm : 12.75
Tolerance mm : \pm 0.10

Rated speed rpm : 500
rack travel mm : 12.75
Tolerance mm : \pm 0.10

Rated speed rpm : 700
rack travel mm : 12.50
Tolerance mm : \pm 0.15

Rated speed rpm : 875
rack travel mm : 11.90
Tolerance mm : \pm 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1200
rack travel mm : 12.75
Tolerance mm : \pm 0.10

Rated speed rpm : 600
Pressure hPa : -
rack travel mm : 9.60
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 600

Pressure hPa : 260
rack travel mm : 10.40
Tolerance mm : \pm 0.20

Pressure hPa : 420
rack travel mm : 12.00
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 250

Check speed 1/min : > 80
Check speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 500
rack travel mm : 12.75
Tolerance mm : \pm 0.10
Del. quantity
 $\text{cm}^3/1000$ strokes : 245.0
Tolerance
 $\text{cm}^3/1000$ strokes : \pm 4.0
Check tolerance
 $\text{cm}^3/1000\text{s}$: \pm 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
 $\text{cm}^3/1000$ strokes : 152.0
Tolerance
 $\text{cm}^3/1000$ strokes : \pm 1.0
Check tolerance
 $\text{cm}^3/1000\text{s}$: \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.60
Tolerance mm : \pm 0.30
Del. quantity
 $\text{cm}^3/1000$ strokes : 105.0
Tolerance
 $\text{cm}^3/1000$ strokes : \pm 15.0
Check tolerance
 $\text{cm}^3/1000\text{s}$: \pm 19.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 6.30
Tolerance mm : \pm 0.10
Del. quantity
 $\text{cm}^3/1000$ strokes : 23.0
Tolerance
 $\text{cm}^3/1000$ strokes : \pm 3.0
Check tolerance
 $\text{cm}^3/1000\text{s}$: \pm 6.0
Spread
Tolerance
 $\text{cm}^3/1000$ strokes : 8.0
Check tolerance
 $\text{cm}^3/1000\text{s}$: 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.03.98
Test oil : ISO 4113

Combination No. : 0 402 746 956

Injection pump
Pump designation : PES6P120A720RS7292
: -1
EP type number : 0 412 726 939

Governor
Governor design. : RQV350...1150PA1074
: -1K
Governor no. : 0 421 815 365

Cust. part No. : 0250740902

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 142.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Tolerance l/h : + 20.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines	:	1 680 750 075
Outside diameter	:	8.0
x inside diameter	:	3.0
x length mm	:	1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar	:	26.0
Tolerance bar	:	+ 1.0

Prestroke mm	:	4.00
Tolerance mm	:	+ 0.05
Check tolerance mm	:	+ 0.10

Rack travel in mm	:	20.50
Tolerance mm	:	+ 0.50

Firing order	:	1- 5- 3- 6- 2-
	:	4

Phasing	:	0-60-120-180-240
	:	-300
Tolerance	:	+ 0.50
Check tolerance °NW	:	+ 0.75

Start of delivery blocking

*NW after s.o.d.	:	3.30
Tolerance	:	+ 0.10
Check tolerance *NW	:	+ 0.75

Barrel no.	:	1
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BASIC SETTING

Rated speed rpm	:	1150
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Rack travel in mm : 14.20	Tolerance mm : + - 0.05	Tolerance mm : + - 0.25
Del. quantity cm ³ /1000 strokes : 266.0		Rated speed rpm : 540
Tolerance cm ³ /1000 strokes : + - 1.0		guide sleeve travel mm : 3.09
Check tolerance cm ³ /1000S. : + - 4.0		Tolerance mm : + - 0.25
Spred		Rated speed rpm : 1480
Tolerance cm ³ /1000 strokes : 8.0		guide sleeve travel mm : 13.50
Check tolerance cm ³ /1000S. : 12.0		Tolerance mm : + - 0.50
<hr/>		
Rated speed rpm : 350		GUIDE SLEEVE POSITION
Rack travel in mm : 6.00		control lever position degree : - 1
Tolerance mm : + - 0.10		Rated speed rpm : 1331
Del. quantity cm ³ /1000 strokes : 13.0		Rack travel in mm : 13.50
Tolerance cm ³ /1000 strokes : + - 3.0		Tolerance mm : + - 1.30
Check tolerance cm ³ /1000S. : + - 6.0		<hr/>
Spred		FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance cm ³ /1000 strokes : 4.0		Rated speed rpm : 1150
Check tolerance cm ³ /1000S. : 8.0		Aneroid pressure hPa : 1500
<hr/>		
(B) SETTING OF INJECTION PUMP WITH GOVERNOR		Del. quantity cm ³ /1000 strokes : 266.0
<hr/>		
GUIDE SLEEVE TRAVEL		Tolerance cm ³ /1000 strokes : + - 1.0
Rated speed rpm : 1206		Check tolerance cm ³ /1000S. : + - 4.0
guide sleeve travel mm : 9.35		Spred
Tolerance mm : + - 0.15		Tolerance cm ³ /1000 strokes : 8.0
Rated speed rpm : 350		Check tolerance cm ³ /1000S. : 12.0
guide sleeve travel mm : 1.53		<hr/>
Tolerance mm : + - 0.20		CONTROL LEVER
Rated speed rpm : 855		control lever position degree : 109.0
guide sleeve travel mm : 5.56		tolerance degree : + - 4.0
<hr/>		
RATED SPEED		
rack travel mm : 13.50		
Rated speed rpm : 1195		
Tolerance 1/min : + - 5		
rack travel mm : 4.00		
Rated speed rpm : 1325		
Tolerance 1/min : + - 15		
rack travel mm : 0.70		
Tolerance mm : + - 0.70		

Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 65.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 250

CRT mm min. : > 6.90

Testing:

Rated speed rpm : 350
rack travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 14.20
Tolerance mm : + 0.05

Rated speed rpm : 950
rack travel mm : 14.00
Tolerance mm : + 0.10

Rated speed rpm : 750
rack travel mm : 13.50
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
Pressure hPa : 1500
rack travel mm : 14.20
Tolerance mm : + 0.05

Rated speed rpm : 1150
Pressure hPa : -
rack travel mm : 10.50
Tolerance mm : + 0.15

MEASUREMENT

Rated speed rpm : 1150

Pressure hPa : 350
rack travel mm : 11.10
Tolerance mm : + 0.05

Pressure hPa : 850
rack travel mm : 13.00
Tolerance mm : + 0.15

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 240

Check
speed 1/min : > 80
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
rack travel mm : 13.50
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 269.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 134.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

STARTING FUEL DELIVERY

Set starting CRT at K-cam.

Rated speed rpm : 100

rack travel mm : 13.50
Tolerance mm : + - 0.20
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 350
Rack travel in mm : 6.00
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.03.98
Test oil : ISO 4113

Combination No. : 0 402 776 817

Injection pump
Pump designation : PES6P130A720RS7318
EP type number : 0 412 736 807

Governor
Governor design. : RSV300...1200P0A581
Governor no. : 0 421 833 438

Cust. part No. :

Customer-spec. information
Customer : IVECO-AIFO
Motor : 8461 SRM 50

TEST BENCH REQUIREMENTS

Inlet Line : 4-2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 4.05
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 10.45
Tolerance mm : + 0.05

Del. quantity cm³/1000 strokes : 316.0

Tolerance cm³/1000 strokes : + 1.5

Check tolerance cm³/1000S. : + 5.0

Spread

Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

Rated speed rpm : 300
 Rack travel in mm : 5.30
 Tolerance mm : + 0.10
 Del. quantity
 cm³/1000 strokes : 20.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 7.0
 Spread
 Tolerance
 cm³/1000 strokes : 10.0
 Check tolerance
 cm³/1000S. : 14.0

Check tolerance
 cm³/1000S. : 10.0

CONTROL LEVER

control lever
 position degree : 106.0
 tolerance degree : + 4.0
 RATED SPEED
 rack travel mm : 9.40
 Rated speed rpm : 1245
 Tolerance 1/min : + 5
 rack travel mm : 4.00
 Rated speed rpm : 1290
 Tolerance 1/min : + 15
 rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1440

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + 0.20

governor spring
 pre-tension
 click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
 Aneroid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 316.0
 Tolerance
 cm³/1000 strokes : + 1.5
 Check tolerance
 cm³/1000S. : + 5.0
 Spread
 Tolerance
 cm³/1000 strokes : 6.0

LOW IDLE

control lever
 position degree : 72.0
 tolerance degree : + 4.0
 Setting point w/out bumper spring
 Rated speed rpm : 300
 rack travel mm : 4.80
 Tolerance mm : + 0.10

Testing:

Rated speed rpm : 300
 rack travel mm : 5.30
 Tolerance mm : + 0.10
 rack travel mm : 2.00
 Rated speed rpm : 395
 Tolerance 1/min : + 30

TORQUE CONTROL
 Rated speed rpm : 1200
 rack travel mm : 10.45
 Tolerance mm : + 0.05
 Rated speed rpm : 550
 rack travel mm : 10.50
 Tolerance mm : + 0.10

Rated speed rpm : 350
rack travel mm : 11.90
Tolerance mm : + - 0.30

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 10.45
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 8.00
Tolerance mm : + - 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 500
rack travel mm : 8.80
Tolerance mm : + - 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 171.5
Tolerance cm³/1000 strokes : + - 1.5
Check tolerance cm³/1000S. : + - 5.0

STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated,
rack must reach start position in max.
control lever setting.

Rated speed rpm : 100

Rated speed rpm : 300

Rack travel in mm : 5.30

Tolerance mm : + - 0.10

Del. quantity

cm³/1000 strokes : 20.0

Tolerance

cm³/1000 strokes : + - 3.0

Check tolerance

cm³/1000S. : + - 7.0

Spread

Tolerance

cm³/1000 strokes : 10.0

Check tolerance

cm³/1000S. : 14.0

End of test specification sheet

LOW IDLE

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.03.98
Test oil : ISO 4113

Combination No. : 0 402 946 010

Injection pump
Pump designation : PES6P120A320RS8028
EP type number : 0 412 926 021

Governor
Governor design. : RQV275...1175PA1101K
Governor no. : 0 421 815 982

Cust. part No. : CCEP 5133 A 66-193

Customer spec. information
Customer : RENAULT V.I.
Motor : MIDR 060226 M51
Power KW : 158.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.00
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 13.00
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance *NW : + 0.75

Start of delivery mark

*NW after s.o.d. : -0.15
Tolerance : + 0.50
Check tolerance *NW : + 0.75

Barrel no. : 1

Beginning of delivery difference

betw. rack trav.
mm : 21.00
and maximum rack
travel : 12.30
Difference * CS : 2.00

CRT ZERO POSITION

Rack travel in mm : 13.70
Tolerance mm : + - 0.05

BASIC SETTING

Rated speed rpm : 1175

Del. quantity cm³/1000 strokes : 268.0

Tolerance cm³/1000 strokes : + - 1.0

Check tolerance cm³/1000S. : + - 4.0

Spread

Tolerance cm³/1000 strokes : 5.0

Check tolerance cm³/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : -7.30
Tolerance mm : + - 0.10

Del. quantity cm³/1000 strokes : 42.0

Tolerance cm³/1000 strokes : + - 2.0

Check tolerance cm³/1000S. : + - 6.0

Spread
Tolerance cm³/1000 strokes : 8.0

Check tolerance cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1230
guide sleeve travel mm : 8.95
Tolerance mm : + - 0.10

Rated speed rpm : 275
guide sleeve travel mm : 1.01

Tolerance mm : + - 0.10

Rated speed rpm : 877
guide sleeve travel mm : 6.51
Tolerance mm : + - 0.20

Rated speed rpm : 389
guide sleeve travel mm : 2.39
Tolerance mm : + - 0.20

Rated speed rpm : 439
guide sleeve travel mm : 3.01
Tolerance mm : + - 0.20

Rated speed rpm : 550
guide sleeve travel mm : 3.92
Tolerance mm : + - 0.20

Rated speed rpm : 1650
guide sleeve travel mm : 13.50
Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

control lever position degree : - 1
Rated speed rpm : 1430

Rack travel in mm : 11.20
Tolerance mm : + - 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1175
Aneroid pressure hPa : 1600
Del. quantity cm³/1000 strokes : 268.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 4.0
Spread
Tolerance cm³/1000 strokes : 5.0
Check tolerance cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 295.0
tolerance degree : \pm 4.0

RATED SPEED
rack travel mm : -1.00
Rated speed rpm : 1240
Tolerance 1/min : \pm 15

rack travel mm : -9.70
Rated speed rpm : 1430
Tolerance 1/min : \pm 5

rack travel mm : -13.20
Tolerance mm : \pm 0.55
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 245.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : < -6.70

Testing:

Rated speed rpm : 275
rack travel mm : -7.30
Tolerance mm : \pm 0.10

Rated speed rpm : 400

TORQUE CONTROL
Rated speed rpm : 1175

Rated speed rpm : 650
rack travel mm : -1.55
Tolerance mm : \pm 0.10

Rated speed rpm : 350
rack travel mm : -2.80
Tolerance mm : \pm 0.25

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1175
Pressure hPa : 1600

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : -5.40
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 1175

Pressure hPa : 320
rack travel mm : -4.70
Tolerance mm : \pm 0.20

Pressure hPa : 560
rack travel mm : -2.95
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : > 175
Rated speed rpm : < 240

Check
speed 1/min : > 155
Check
speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 260.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

rack travel mm : -2.80
Tolerance mm : \pm 0.25

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 148.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 275
Rack travel in mm : -7.30
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 42.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.03.98
Test oil : ISO 4113

Combination No. : 0 402 946 030

Injection pump
Pump designation : PES6P120A720RS8049
EP type number : 0 412 926 031

Governor
Governor design. : RQ750PA1299
Governor no. : 0 421 801 810

Cust. part No. : 1397781

Customer-spec. information
Customer : SCANIA
Motor : DSC1158A

TEST BENCH REQUIREMENTS

Inlet Line : EHAB

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 90
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 14.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery blocking

Tolerance : + 0.10
Check tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.15
 Tolerance mm : + 0.05
 Del. quantity cm³/1000 strokes : 363.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 11.0
 Spread
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000S. : 12.0
 Rack travel in mm : 3.00
 Tolerance mm : + 0.20
 Del. quantity cm³/1000 strokes : 30.0
 Tolerance cm³/1000 strokes : + 4.0
 Check tolerance cm³/1000S. : + 6.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure hPa : 1500
 Del. quantity cm³/1000 strokes : 363.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 11.0
 Spread
 Tolerance cm³/1000 strokes : 8.0

Check tolerance cm³/1000S. : 12.0

CONTROL LEVER

control lever position degree : 22.0
 tolerance degree : + 4.0
 control lever position degree : 83.0
 tolerance degree : + 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
 rack travel mm : 12.10
 Rated speed rpm : 778
 Tolerance 1/min : + 4
 rack travel mm : 4.00
 rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 850
 Rated speed rpm : 751
 rack travel mm : 12.10
 Rated speed rpm : 779
 Tolerance 1/min : + 4
 rack travel mm : 4.00
 rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 850

Rated speed rpm : 752
 rack travel mm : 12.10
 Rated speed rpm : 780
 Tolerance 1/min : + 4
 rack travel mm : 4.00
 rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 850
 Rated speed rpm : 753
 rack travel mm : 12.10
 Rated speed rpm : 781
 Tolerance 1/min : + 4
 rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 850

Rated speed rpm : 754
rack travel mm : 12.10

Rated speed rpm : 782
Tolerance 1/min : + - 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 850

Rated speed rpm : 755
rack travel mm : 12.10

Rated speed rpm : 783
Tolerance 1/min : + - 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 850

TORQUE CONTROL
Rated speed rpm : 700
rack travel mm : 13.15
Tolerance mm : + - 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.15
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 7.70
Tolerance mm : + - 0.20

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 230
rack travel mm : 8.45
Tolerance mm : + - 0.25

Pressure hPa : 580
rack travel mm : 10.45
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 7.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.03.98
Test oil : ISO 4113

Combination No. : 0 403 466 151AA

Injection pump
Pump designation : PES6MW100/120RS1238
EP type number : 0 413 406 237

Governor
Governor design. : RSV450...1100MN2A367
Governor no. : 0 420 085 250

Cust. part No. : 3284205

Customer-spec. information

Customer : CDC
Motor : 6 CT
Power KW : 138.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : + 1.0

Prestroke mm : 2.80
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 8.00
Tolerance : + 0.50
Check tolerance *NW : + 0.75

Barrel no. : 1

Beginning of delivery difference
and maximum rack
travel : 15.00
Difference ° CS : 2.00

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.10
Tolerance mm : + - 0.10

Del. quantity
cm³/1000 strokes : 130.0

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 4.0

Spread

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 450

Rack travel in mm : 5.15
Tolerance mm : + - 0.05

Del. quantity
cm³/1000 strokes : 25.5

Tolerance
cm³/1000 strokes : + - 1.5

Check tolerance
cm³/1000S. : + - 4.5

Spread

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3

governor spring
pre-tension
click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure

hPa : 1200

Del. quantity
cm³/1000 strokes : 130.0

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 4.0

Spread

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 94.0

Tolerance degree : + - 4.0

RATED SPEED

rack travel mm : 10.10

Rated speed rpm : 1090

Tolerance 1/min : + - 5

rack travel mm : 6.40

Rated speed rpm : 1175

Tolerance 1/min : + - 15

rack travel mm : 1.00

Tolerance mm : + - 0.70

Rated speed rpm : 1350

rack travel mm : 6.40

Rated speed rpm : 1175

Tolerance 1/min : + - 15

LOW IDLE

control lever

position degree : 78.0

Tolerance degree : + - 4.0

Control lever difference

Grad : 16.0

Tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 450
rack travel mm : 4.15
Tolerance mm : + - 0.05

Testing:

Rated speed rpm : 450
rack travel mm : 5.15
Tolerance mm : + - 0.05

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.10
Tolerance mm : + - 0.10

Rated speed rpm : 750
rack travel mm : 11.35
Tolerance mm : + - 0.10

Rated speed rpm : 1000
rack travel mm : 11.15
Tolerance mm : + - 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.50
Tolerance mm : + - 0.20

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 550
rack travel mm : 10.90
Tolerance mm : + - 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200
Rated speed rpm : 750
Del. quantity cm³/1000 strokes : 140.0
Tolerance cm³/1000 strokes : + - 2.0

Check tolerance cm³/1000S. : + - 5.0
Spread
Tolerance cm³/1000 strokes : 6.0
Check tolerance cm³/1000S. : 9.0

rack travel mm : 11.15
Tolerance mm : + - 0.20

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 121.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + - 1.00
Del. quantity cm³/1000 strokes : 177.0
Tolerance cm³/1000 strokes : + - 10.0
Check tolerance cm³/1000S. : + - 13.0

LOW IDLE

Rated speed rpm : 450
Rack travel in mm : 5.15
Tolerance mm : + - 0.05
Del. quantity cm³/1000 strokes : 25.5
Tolerance cm³/1000 strokes : + - 1.5
Check tolerance cm³/1000S. : + - 4.5
Spread
Tolerance cm³/1000 strokes : 3.5
Check tolerance cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition :
Test oil : V1

Combination No. : 0 402 746 608FR

Injection pump
Pump designation : 0412726925
EP type number : 0 412 726 925

Governor
Governor design. : PES6P120A320RS7359
Governor no. : 0 421 801 805

Cust. part No. : RENAULT V.I.

Customer-spec. information
Motor : CCEP 5157A 66-
Power KW : LKW/BU

TEST BENCH REQUIREMENTS

Inlet line : 250

Test oil inlet
temp. °C : ISO 41
Tolerance °C : 40.0

Inlet press. bar : ± 2.0

Overflow quantity
min. l/h : 6.0
Tolerance l/h : 220

Test nozzle holder
assembly : B K

Opening pressure
bar : 16889011
Tolerance bar : 20850

Outside diameter : 2.0
x inside diameter : ± 150

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 2600
Tolerance bar : ± 10

Prestroke mm : 4.70
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10

Firing order : 1- 5- 3- 6- 2-
: 4

BASIC SETTING

Tolerance mm : ± 0.1

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 2.44
Tolerance mm : ± 0.2

LOW IDLE

Testing:

Rated speed rpm : 275
Tolerance mm : ± 0.1

LOW IDLE

Tolerance ~~nm~~ : ± 0.1

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.03.98
Test oil : ISO 4113

Combination No. : F 000 409 212

Injection pump
Pump designation : PES6A95D410RS2923
EF type number : F 000 400 401

Governor
Governor design. : RQV300...1300AB1326L
Governor no. : F 000 420 302

Cust. part No. : A 028 074 51 02

Customer-spec. information

Customer : MBB
Motor : OM 366LA/EuroI
Power KW : 150.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.20
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 19.00
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °MW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 13.45
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 97.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000s. : + 3.0

Spread

Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 8.0

Rated speed rpm : 300
 Rack travel in mm : 6.60
 Tolerance mm : + - 0.10
 Del. quantity
 cm³/1000 strokes : 13.0
 Tolerance
 cm³/1000 strokes : + - 2.0
 Check tolerance
 cm³/1000S. : + - 4.5
 Spread
 Tolerance
 cm³/1000 strokes : 5.5
 Check tolerance
 cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1500
 guide sleeve
 travel mm : 9.70
 Tolerance mm : + - 0.05
 Rated speed rpm : 300
 guide sleeve
 travel mm : 1.30
 Tolerance mm : + - 0.25
 Rated speed rpm : 500
 guide sleeve
 travel mm : 2.90
 Tolerance mm : + - 0.25
 Rated speed rpm : 750
 guide sleeve
 travel mm : 4.80
 Tolerance mm : + - 0.10

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1366
 Rack travel in mm : 16.50

Tolerance mm : + - 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
 Aneroid pressure
 hPa : 900
 Del. quantity
 cm³/1000 strokes : 97.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 3.0
 Spread
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 8.0

CONTROL LEVER

control lever
 position degree : 113.0
 tolerance degree : + - 4.0

RATED SPEED
 rack travel mm : 12.50
 Rated speed rpm : 1345
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1520
 Tolerance 1/min : + - 15
 rack travel mm : 0.50
 Tolerance mm : + - 0.50
 Rated speed rpm : 1640

LOW IDLE

control lever
 position degree : 73.0
 tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 9.00

Testing:

Rated speed rpm : 300

rack travel mm : 6.60
Tolerance mm : + - 0.10

Rated speed rpm : 355

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 13.45
Tolerance mm : + - 0.05

Rated speed rpm : 750
rack travel mm : 13.45
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 13.50
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 270
rack travel mm : 1.20
Tolerance mm : + - 0.10

Pressure hPa : 510
rack travel mm : 2.80
Tolerance mm : + - 0.10

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 210

Check speed 1/min : > 80
Check speed 1/min : < 230

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -
Rated speed rpm : 500

Det. quantity cm3/1000 strokes : 54.0
Tolerance cm3/1000 strokes : + - 1.0
Check tolerance cm3/1000S. : + - 3.0
Spread
Tolerance cm3/1000 strokes : 3.5
Check tolerance cm3/1000S. : 8.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 14.20
Tolerance mm : + - 0.10
Det. quantity cm3/1000 strokes : 108.0
Tolerance cm3/1000 strokes : + - 7.5
Check tolerance cm3/1000S. : + - 10.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 6.60
Tolerance mm : + - 0.10
Det. quantity cm3/1000 strokes : 13.0
Tolerance cm3/1000 strokes : + - 2.0
Check tolerance cm3/1000S. : + - 4.5
Spread
Tolerance cm3/1000 strokes : 5.5
Check tolerance cm3/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.03.98
Test oil : ISO 4113

Combination No. : 0 400 836 018

Injection pump
Pump designation : PES6A80D410/3RS2527
El' type number : 0 410 886 059

Governor
Governor design. : RQ275/1400AB798DL
Governor no. : 0 420 202 239

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : F6L912
Power KW : 88.3

TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 1.95
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 11.65
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 65.5

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000s. : + 3.0

Spread

Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 7.0

Rated speed rpm : 275
 Rack travel in mm : 8.70
 Tolerance mm : + - 0.05
 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : + - 1.5
 Check tolerance
 cm³/1000S. : + - 3.5
 Spread
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 650

Rack travel in mm : 16.00
 Tolerance mm : + - 0.40

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 65.5
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 3.0
 Spread
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 7.0

RATED SPEED

DD7

rack travel mm : 10.60
 Rated speed rpm : 1453
 Tolerance 1/min : + - 8
 rack travel mm : 4.00
 Rated speed rpm : 1550
 Tolerance 1/min : + - 15
 rack travel mm : 0.50
 Tolerance mm : + - 0.50
 Rated speed rpm : 1650

LOW IDLE

Setting point w/out bumper spring
 Rated speed rpm : 100
 CRT mm min. : > 7.00

Testing:

Rated speed rpm : 275
 rack travel mm : 8.70
 Tolerance mm : + - 0.05
 rack travel mm : 2.00
 Rated speed rpm : 450
 Tolerance 1/min : + - 20
 Rated speed rpm : 600
 CRT mm max. : < 1.00

TORQUE CONTROL

Dimension a mm : 0.65
 Rated speed rpm : 1400
 rack travel mm : 11.65
 Tolerance mm : + - 0.05
 Rated speed rpm : 650
 rack travel mm : 13.10
 Tolerance mm : + - 0.10
 Rated speed rpm : 810
 rack travel mm : 12.70
 Tolerance mm : + - 0.10
 Rated speed rpm : 1015
 rack travel mm : 12.05
 Tolerance mm : + - 0.15

FUEL DELIVERY CHARACTERISTICS

Rack travel mm : 12.70
Tolerance mm : + - 0.10

STARTING FUEL DELIVERY

Rated speed rpm : 100
Rack travel mm : 17.70
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : + - 7.5
Check tolerance
cm³/1000s. : + - 10.0

LOW IDLE

Rated speed rpm : 275
Rack travel in mm : 8.70
Tolerance mm : + - 0.05
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000s. : + - 3.5
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000s. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.03.98
Test oil : ISO 4113

Combination No. : 0 400 836 045

Injection pump
Pump designation : PES6A95D410/3RS2907
EP type number : 0 410 896 884

Governor
Governor design. : RQV750AB1004L
Governor no. : 0 420 212 093

Cust. part No. : 0423 2212 KY

Customer-spec. information
Customer : KHD-DMI
Motor : BF6L913

TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.00
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 11.35
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 69.0

Tolerance
cm³/1000 strokes : + 0.5

Check tolerance
cm³/1000s. : + 2.0

Spread

Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 4.5

Rated speed rpm : 800

Rack travel in mm : 11.00
Tolerance mm : ± 1.30

Rated speed rpm : 250

FULL LOAD DELIVERY AT FULL LOAD STOP

Rack travel in mm : 8.50
Tolerance mm : ± 0.10

Rated speed rpm : 750

Del. quantity
cm³/1000 strokes : 11.5

Aneroid pressure
hPa : -

Tolerance
cm³/1000 strokes : ± 3.0

Del. quantity
cm³/1000 strokes : 69.0

Check tolerance
cm³/1000S. : ± 5.0

Tolerance
cm³/1000 strokes : ± 0.5

Spread
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : ± 2.0

Check tolerance
cm³/1000S. : 4.5

Spread
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 4.5

Check tolerance
cm³/1000S. : 4.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 752
guide sleeve
travel mm : 3.49
Tolerance mm : ± 0.15

CONTROL LEVER

control lever
position degree : 88.0
tolerance degree : ± 4.0

Rated speed rpm : 530
guide sleeve
travel mm : -6.78
Tolerance mm : ± 0.25

ASSEMBLY GOVERNOR SETTINGS

Rated speed rpm : 767
rack travel mm : 10.35

Rated speed rpm : 880
guide sleeve
travel mm : 17.75
Tolerance mm : ± 0.25

Rated speed rpm : 795
Tolerance 1/min : ± 5
rack travel mm : 4.00

Rated speed rpm : 823
guide sleeve
travel mm : 10.00
Tolerance mm : ± 0.25

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 815

Rated speed rpm : 880
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

Rated speed rpm : 768
rack travel mm : 10.35

GUIDE SLEEVE POSITION

control lever
position degree : - 1

Rated speed rpm : 796
Tolerance 1/min : ± 5
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : ± 0.50

Rated speed rpm : 769
rack travel mm : 10.35

Rated speed rpm : 797
Tolerance 1/min : + - 5
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + - 0.50

Rated speed rpm : 770
rack travel mm : 10.35

Rated speed rpm : 798
Tolerance 1/min : + - 5
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + - 0.50

Rated speed rpm : 771
rack travel mm : 10.35

Rated speed rpm : 799
Tolerance 1/min : + - 5
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + - 0.50

Rated speed rpm : 772
rack travel mm : 10.35

Rated speed rpm : 800
Tolerance 1/min : + - 5
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + - 0.50

LOW IDLE

Testing:

Rated speed rpm : 250
rack travel mm : 8.50
Tolerance mm : + - 0.10

TORQUE CONTROL

Rated speed rpm : 750
rack travel mm : 11.35
Tolerance mm : + - 0.05

Start interlock

Rated speed rpm : > 100

Rated speed rpm : < 660
Check speed 1/min : > 80

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : + - 0.75
Del. quantity cm³/1000 strokes : 125.0
Tolerance cm³/1000 strokes : + - 7.5
Check tolerance cm³/1000S. : + - 10.0

LOW IDLE

Rated speed rpm : 250
Rack travel in mm : 8.50
Tolerance mm : + - 0.10
Del. quantity cm³/1000 strokes : 11.5
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 5.0
Spread Tolerance cm³/1000 strokes : 2.5
Check tolerance cm³/1000S. : 4.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.03.98
Test oil : ISO 4113

Combination No. : 0 400 836 046

Injection pump
Pump designation : PES6A95D410/3RS2907
EP type number : 0 410 896 884

Governor
Governor design. : RQ300/1250AB935-2L
Governor no. : 0 420 200 107

Cust. part No. : 0423 2162 KY

Customer-spec. information

Customer : KHD-DMI
Motor : F6L913-NEW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + - 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + - 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + - 1.0

Prestroke mm : 3.00
Tolerance mm : + - 0.05
Check tolerance mm : + - 0.10

Rack travel in mm : 10.50
Tolerance mm : + - 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + - 0.50
Check tolerance °NW : + - 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35
Tolerance mm : + - 0.05

Del. quantity
cm³/1000 strokes : 76.0

Tolerance
cm³/1000 strokes : + - 0.5

Check tolerance
cm³/1000s. : + - 2.0

Spread

Tolerance	
cm ³ /1000 strokes	: 2.5
Check tolerance	
cm ³ /1000S.	: 4.0
Rated speed rpm	: 325
Rack travel in mm	: 8.50
Tolerance mm	: ± 0.10
Del. quantity	
cm ³ /1000 strokes	: 11.5
Tolerance	
cm ³ /1000 strokes	: ± 1.5
Check tolerance	
cm ³ /1000S.	: ± 3.5
Spread	
Tolerance	
cm ³ /1000 strokes	: 4.0
Check tolerance	
cm ³ /1000S.	: 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 1307
guide sleeve	
travel mm	: 6.75
Tolerance mm	: ± 0.15
Rated speed rpm	: 300
guide sleeve	
travel mm	: 1.26
Tolerance mm	: ± 0.20
Rated speed rpm	: 1250
guide sleeve	
travel mm	: 6.40
Tolerance mm	: ± 0.10
Rated speed rpm	: 950
guide sleeve	
travel mm	: 6.10
Tolerance mm	: ± 0.10
Rated speed rpm	: 617
guide sleeve	
travel mm	: 4.68
Tolerance mm	: ± 0.10
Rated speed rpm	: 740
guide sleeve	
travel mm	: 6.00

Tolerance mm	: ± 0.10
Rated speed rpm	: 1480
guide sleeve	
travel mm	: 11.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1056
guide sleeve	
travel mm	: 6.30
Tolerance mm	: ± 0.10

GUIDE SLEEVE POSITION

control lever	
position degree	: 109
Rated speed rpm	: 800
Rack travel in mm	: 20.00
Tolerance mm	: ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1250
Aneroid pressure	
hPa	: -
Del. quantity	
cm ³ /1000 strokes	: 76.0
Tolerance	
cm ³ /1000 strokes	: ± 0.5
Check tolerance	
cm ³ /1000S.	: ± 2.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 2.5
Check tolerance	
cm ³ /1000S.	: 4.0

RATED SPEED	
rack travel mm	: 10.30
Rated speed rpm	: 1303
Tolerance 1/min	: ± 8

rack travel mm	: 4.00
Rated speed rpm	: 1380
Tolerance 1/min	: ± 15

rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1500

LOW IDLE

Setting point w/out busper spring

Rated speed rpm : 200

CRT min. : > 9.00

Testing:

Rated speed rpm : 325
rack travel mm : 8.50
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 635
Tolerance 1/min : + - 20

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 11.35
Tolerance mm : + - 0.05

Rated speed rpm : 750
rack travel mm : 11.65
Tolerance mm : + - 0.05

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 220

Check
speed 1/min : > 80
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 70.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + - 1.00

Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : + - 7.5
Check tolerance
cm³/1000S. : + - 10.0

LOW IDLE

Rated speed rpm : 325
Rack travel in mm : 8.50
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 11.5
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 3.5
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.03.98
Test oil : ISO 4113

Combination No. : 0 400 865 019

Injection pump
Pump designation : PES5A80D410/3RS2526
EP type number : 0 410 885 004

Governor
Governor design. : RSV325...1150A8C604
: -1L
Governor no. : 0 420 232 573

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : F5L912
Power KW : 62.0

TEST BENCH REQUIREMENTS

Inlet Line : 1.3

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 1.95
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288
Tolerance : + 0.50
Check tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1130

Rack travel in mm : 12.65
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 65.5

Tolerance
cm³/1000 strokes : + 0.5

Check tolerance
cm³/1000s. : + 2.0

Spread

Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 4.0

Rated speed rpm : 325

Rack travel in mm : 9.00

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 4.5

Spred
Tolerance
cm³/1000 strokes : 2.0

Check tolerance
cm³/1000S. : 3.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 300

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1130
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 65.5
Tolerance
cm³/1000 strokes : + 0.5
Check tolerance
cm³/1000S. : + 2.0
Spred
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.0

CONTROL LEVER

control lever
position degree : 104.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 11.60
Rated speed rpm : 1175
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1230
Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1350

rack travel mm : 4.00
Rated speed rpm : 1235
Tolerance 1/min : + 15

LOW IDLE

control lever
position degree : 69.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 8.50
Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

Testing:

Rated speed rpm : 325
rack travel mm : 9.00
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 500
Tolerance 1/min : + 30

TORQUE CONTROL

Dimension a mm : 0.70
Rated speed rpm : 1130

Rack travel mm : 12.65
Tolerance mm : + - 0.05

Rated speed rpm : 500
Rack travel mm : 13.35
Tolerance mm : + - 0.05

Rated speed rpm : 910
Rack travel mm : 13.00
Tolerance mm : + - 0.10

FUEL DELIVERY CHARACTERISTICS

Rack travel mm : 13.00
Tolerance mm : + - 0.10

LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 9.00
Tolerance mm : + - 0.10

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : + - 3.0

Check tolerance
cm³/1000S. : + - 4.5

Spread
Tolerance
cm³/1000 strokes : 2.0

Check tolerance
cm³/1000S. : 3.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.03.98
Test oil : ISO 4113

Combination No. : 0 400 866 069

Injection pump
Pump designation : PES6A900320/3RS2464
EP type number : 0 410 896 029

Governor
Governor design. : RSV300...1000A7C529R
Governor no. : 0 420 233 191

Cust. part No. :

Customer-spec. information
Customer : MWM

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 922 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009_

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 2.20
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 10.30
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 68.0

Tolerance
cm³/1000 strokes : + 0.5

Check tolerance
cm³/1000s. : + 2.5

Spread

Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 4.5

Rated speed rpm : 300

Rack travel in mm : 7.50
Tolerance mm : + - 0.10

Del. quantity
cm³/1000 strokes : 10.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 6.0

control lever
position degree : 65.0
tolerance degree : + - 4.0

RATED SPEED
rack travel mm : 9.30
Rated speed rpm : 1025
Tolerance 1/min : + - 5

rack travel mm : 4.00
Rated speed rpm : 1055
Tolerance 1/min : + - 15

rack travel mm : 1.00
Tolerance mm : + - 0.70
Rated speed rpm : 1200

rack travel mm : 4.00

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : + - 0.35

control lever
position degree : 28.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 300
rack travel mm : 8.00
Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

Testing:

Rated speed rpm : 300
rack travel mm : 7.50
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 430
Tolerance 1/min : + - 30

Rated speed rpm : 450
CRT mm max. : < 1.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 980
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 68.0
Tolerance
cm³/1000 strokes : + - 0.5
Check tolerance
cm³/1000S. : + - 2.5
Spread
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 4.5

TORQUE CONTROL
Rated speed rpm : 980
rack travel mm : 10.30
Tolerance mm : + - 0.05

CONTROL LEVER

Start interlock

Rated speed rpm : > 100

Check
speed 1/min : > 80

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : + - 0.75
Del. quantity
cm³/1000 strokes : 118.0
Tolerance
cm³/1000 strokes : + - 7.5
Check tolerance
cm³/1000s. : + - 10.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 7.50
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 10.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000s. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000s. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.03.98
Test oil : ISO 4113

Combination No. : 0 400 866 070

Injection pump
Pump designation : PES6A900320/3RS2464
EP type number : 0 410 896 029

Governor
Governor design. : RSV325...1500A2C529R
Governor no. : 0 420 233 189

Cust. part No. :

Customer-spec. information
Customer : MM

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test Lines : 0 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 2.20
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

BASIC SETTING

Del. quantity
cm³/1000 strokes : 68.0

Tolerance
cm³/1000 strokes : + 0.5

Check tolerance
cm³/1000s. : + 2.5

Spread

Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000s. : 4.5

Rated speed rpm : 325

Rack travel in mm : 7.00
 Tolerance mm : + - 0.10
 Del. quantity cm³/1000 strokes : 10.5
 Tolerance cm³/1000 strokes : + - 1.5
 Check tolerance cm³/1000S. : + - 3.5
 Speed
 Tolerance cm³/1000 strokes : 2.5
 Check tolerance cm³/1000S. : 4.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + - 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1480
 Aneroid pressure hPa : -
 Del. quantity cm³/1000 strokes : 68.0
 Tolerance cm³/1000 strokes : + - 0.5
 Check tolerance cm³/1000S. : + - 2.5
 Speed
 Tolerance cm³/1000 strokes : 3.0
 Check tolerance cm³/1000S. : 4.5

CONTROL LEVER

control lever
 position degree : 108.0
 tolerance degree : + - 4.0

RATED SPEED
 rack travel mm : 8.00
 Rated speed rpm : 1525

Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1560
 Tolerance 1/min : + - 15
 rack travel mm : 0.85
 Tolerance mm : + - 0.55
 Rated speed rpm : 1700
 rack travel mm : 4.00
 Rated speed rpm : 1575
 Tolerance 1/min : + - 15

LOW IDLE

control lever
 position degree : 70.0
 tolerance degree : + - 4.0

Setting point w/out bumper spring
 Rated speed rpm : 325
 rack travel mm : 7.50
 Tolerance mm : + - 0.10
 Rated speed rpm : 100
 CRT mm min. : > 19.50

Testing:

Rated speed rpm : 325
 rack travel mm : 7.00
 Tolerance mm : + - 0.10
 rack travel mm : 2.00
 Rated speed rpm : 480
 Tolerance 1/min : + - 30

Start interlock

Rated speed rpm : > 100
 Check speed 1/min : > 80

STARTING FUEL DELIVERY

Rated speed rpm : 100

Rack travel mm : 20.25
Tolerance mm : + - 0.75
Del. quantity
cm³/1000 strokes : 118.0
Tolerance
cm³/1000 strokes : + - 8.0
Check tolerance
cm³/1000S. : + - 11.0

LOW IDLE

Rated speed rpm : 325
Rack travel in mm : 7.00
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 10.5
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 3.5
Speed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.03.98
Test oil : ISO 4113

Combination No. : 0 400 866 078

Injection pump
Pump designation : PES6A85D410/3RS2415
EP type number : 0 410 886 915

Governor
Governor design. : RSV325...900A7C720L
Governor no. : 0 420 232 339

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : BFLS913

TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 1.95
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 11.85
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 68.5

Tolerance
cm³/1000 strokes : + 0.5

Check tolerance
cm³/1000s. : + 2.5

Spread

Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000s.

: 4.5

Rated speed rpm : 325

Rack travel in mm : 8.10
Tolerance mm : + - 0.10

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : + - 3.0

Check tolerance
cm³/1000s. : + - 5.0

Spread
Tolerance
cm³/1000 strokes : 2.0

Check tolerance
cm³/1000s. : 4.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3

Rack travel in mm : 0.50
Tolerance mm : + - 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900

Aneroid pressure

hPa : -

Del. quantity
cm³/1000 strokes : 68.5

Tolerance
cm³/1000 strokes : + - 0.5

Check tolerance
cm³/1000s. : + - 2.5

Spread
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000s. : 4.5

CONTROL LEVER

control lever
position degree : 107.0
tolerance degree : + - 4.0

RATED SPEED
rack travel mm : 10.80
Rated speed rpm : 945
Tolerance 1/min : + - 5

rack travel mm : 0.85
Tolerance mm : + - 0.55
Rated speed rpm : 1100

rack travel mm : 4.00
Rated speed rpm : 995
Tolerance 1/min : + - 15

LOW IDLE

control lever
position degree : 75.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 7.60
Tolerance mm : + - 0.10

Testing:

Rated speed rpm : 325
rack travel mm : 8.10
Tolerance mm : + - 0.10

TORQUE CONTROL
Rated speed rpm : 900
rack travel mm : 11.85
Tolerance mm : + - 0.05

Rated speed rpm : 600
rack travel mm : 12.35
Tolerance mm : + - 0.05

Rated speed rpm : 800
rack travel mm : 12.15
Tolerance mm : + - 0.15

FUEL DELIVERY CHARACTERISTICS

Rack travel mm : 12.15
Tolerance mm : + - 0.15

LOW IDLE

Rated speed rpm : 325
Rack travel in mm : 8.10
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 5.0
Spread
Tolerance
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.03.98
Test oil : ISO 4113

Combination No. : 0 400 873 036

Injection pump
Pump designation : PES3A90D320RS2626
EP type number : 0 410 883 002

Governor
Governor design. : RSV300...975A1C2171
: -5R
Governor no. : 0 420 233 185

Cust. part No. :

Customer-spec. information

Customer : EICHER
Motor : EDL 3/8.3/9.3
Power KW : 41.0

TEST BENCH REQUIREMENTS

Inlet line : 1.0

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 2.25
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 3- 2

Phasing : 0-120-240
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 975

Rack travel in mm : 11.40
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 77.5

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000s. : + 3.0

Spread

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm : 8.00

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : + 2.0

Check tolerance
cm³/1000S. : + 4.5

Spred

Tolerance
cm³/1000 strokes : 5.5

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : FREE
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 975
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 77.5
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0
Spred
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 102.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 10.40
Rated speed rpm : 1020
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1065
Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1230

rack travel mm : 4.00
Rated speed rpm : 1080

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 300
rack travel mm : 7.50
Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

Testing:

Rated speed rpm : 300
rack travel mm : 8.00
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 430
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 975
rack travel mm : 11.40
Tolerance mm : + 0.05

Rated speed rpm : 500
rack travel mm : 11.45
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 70.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000s. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : + - 0.75
Del. quantity
cm³/1000 strokes : 138.0
Tolerance
cm³/1000 strokes : + - 7.5
Check tolerance
cm³/1000s. : + - 10.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 8.00
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000s. : + - 4.5
Spread
Tolerance
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000s. : 9.0

End of test specification sheet

E01

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.03.98
Test oil : ISO 4113

Combination No. : F 002 A02 011

Injection pump
Pump designation : PES6A95D320/3RS2881
EP type number : 9 410 037 215

Governor
Governor design. : RSV475...1100A0C888R
Governor no. : F 002 A20 212

Cust. part No. : 3930164

Customer spec. information
Customer : CUMMINS
Motor : 6BTA
Power KW : 124.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 7.50
Tolerance : + 0.10
Check tolerance *NW : + 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.65

Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 116.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 3.0
 Spread
 Tolerance cm³/1000 strokes : 4.0
 Check tolerance cm³/1000S. : 6.5
 Rated speed rpm : 475
 Rack travel in mm : 5.95
 Tolerance mm : + - 0.10
 Del. quantity cm³/1000 strokes : 20.6
 Tolerance cm³/1000 strokes : + - 2.0
 Check tolerance cm³/1000S. : + - 4.5
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : FREE
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + - 0.20
 governor spring
 pre-tension
 click setting x : 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure hPa : 1200
 Del. quantity cm³/1000 strokes : 116.0
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 3.0
 Spread
 Tolerance cm³/1000 strokes : 4.0
 Check tolerance cm³/1000S. : 6.5

CONTROL LEVER

control lever
 position degree : 94.0
 tolerance degree : + - 4.0
 RATED SPEED
 rack travel mm : 12.70
 Rated speed rpm : 1115
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1185
 Tolerance 1/min : + - 15
 rack travel mm : 0.85
 Tolerance mm : + - 0.55
 Rated speed rpm : 1300
 rack travel mm : 4.00
 Rated speed rpm : 1190
 Tolerance 1/min : + - 15

LOW IDLE

control lever
 position degree : 75.0
 tolerance degree : + - 4.0
 Control lever difference
 Grad : 19.0
 tolerance degree : + - 6.0
 Setting point w/out bumper spring
 Rated speed rpm : 475
 rack travel mm : 4.95
 Tolerance mm : + - 0.10

Rated speed rpm : 100
CRT min. : > 19.00

Testing:

Rated speed rpm : 475
rack travel mm : 5.95
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 550
Tolerance 1/min : + - 30

TORQUE CONTROL
Rated speed rpm : 1050
rack travel mm : 13.65
Tolerance mm : + - 0.05

Rated speed rpm : 750

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.70
Tolerance mm : + - 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 550
rack travel mm : 12.50
Tolerance mm : + - 0.20

Pressure hPa : 400
rack travel mm : 11.85
Tolerance mm : + - 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 120.0

Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 83.9
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + - 0.50
Del. quantity
cm³/1000 strokes : 121.5
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 15.0

LOW IDLE

Rated speed rpm : 475

Rack travel in mm : 5.95
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 20.6
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 4.5
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.12.97
Test oil : ISO 4113

Combination No. : 0 402 776 819

Injection pump
Pump designation : PES6P120A320LS7285
EP type number : 0 412 726 892

Governor
Governor design. : RSV350...1100P1A601
Governor no. : 0 421 833 482

Cust. part No. : 1823388C91

Customer-spec. information
Customer : NAVISTAR
Motor : DTA-531
Power KW : 222.0

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.8
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : + 1.0

Prestroke mm : 2.90
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

Start of delivery blocking

Tolerance : + 0.50
Check
tolerance °NW : + 0.75
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.25
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 216.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 350
 Rack travel in mm : 5.50
 Tolerance mm : + - 0.10
 Del. quantity
 cm³/1000 strokes : 33.5
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 5.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + - 0.20
 governor spring
 pre-tension
 click setting x : 3.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure
 hPa : 1500
 Del. quantity
 cm³/1000 strokes : 216.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

CONTROL LEVER

control lever
 position degree : 103.0
 tolerance degree : + - 4.0
 RATED SPEED
 rack travel mm : 12.20
 Rated speed rpm : 1150
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1200
 Tolerance 1/min : + - 5
 rack travel mm : 0.50
 Tolerance mm : + - 0.50
 Rated speed rpm : 1250
 rack travel mm : 4.00
 Rated speed rpm : 1205
 Tolerance 1/min : + - 5

LOW IDLE

control lever
 position degree : 72.5
 tolerance degree : + - 4.0
 Setting point w/out bumper spring
 Rated speed rpm : 100
 CRT mm min. : > 19.00

Testing:

Rated speed rpm : 350
 rack travel mm : 5.50
 Tolerance mm : + - 0.10

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.25
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1500

Rated speed rpm : 400
Pressure hPa : -
rack travel mm : 8.30
Tolerance mm : + - 0.20

MEASUREMENT

Rated speed rpm : 400
Pressure hPa : 1035
rack travel mm : 11.90
Tolerance mm : + - 0.20

Pressure hPa : 450
rack travel mm : 9.30
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 106.5
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + - 1.00
Del. quantity
cm³/1000 strokes : 167.5
Tolerance
cm³/1000 strokes : + - 20.0

Check tolerance
cm³/1000S. : + - 25.0

LOW IDLE

Rated speed rpm : 350
Rack travel in mm : 5.50
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 33.5
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 12.03.98
Test oil : ISO 4113

Combination No. : F 002 A02 039

Injection pump
Pump designation : PES6A95D320/3RS2881
EP type number : 9 410 037 215

Governor
Governor design. : RSV500...1100A0C919R
Governor no. : F 002 A20 229

Cust. part No. : 3932479

Customer-spec. information

Customer : CDC
Motor : 6BT
Power KW : 101.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.35

Tolerance mm : + 0.05
 Del. quantity cm³/1000 strokes : 95.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 3.0
 Spread
 Tolerance cm³/1000 strokes : 3.5
 Check tolerance cm³/1000S. : 6.0
 Rated speed rpm : 500
 Rack travel in mm : 5.10
 Tolerance mm : + 0.10
 Del. quantity cm³/1000 strokes : 18.5
 Tolerance cm³/1000 strokes : + 2.0
 Check tolerance cm³/1000S. : + 4.5
 Spread
 Tolerance cm³/1000 strokes : 3.5
 Check tolerance cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800

Rack travel in mm : 0.50
 Tolerance mm : + 0.20

governor spring
 pre-tension
 click setting x : 1.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
 Aneroid pressure hPa : 900
 Del. quantity cm³/1000 strokes : 95.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 3.0
 Spread
 Tolerance cm³/1000 strokes : 3.5
 Check tolerance cm³/1000S. : 6.0

CONTROL LEVER

control lever
 position degree : 92.0
 tolerance degree : + 4.0

RATED SPEED
 rack travel mm : 10.30
 Rated speed rpm : 1170
 Tolerance 1/min : + 5
 Check
 speed 1/min : + 10

rack travel mm : 5.40
 Rated speed rpm : 1235
 Tolerance 1/min : + 5
 Check
 speed 1/min : + 10

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1350

rack travel mm : 5.40
 Rated speed rpm : 1235
 Tolerance 1/min : + 15
 Check
 speed 1/min : + 20

LOW IDLE

control lever
 position degree : 75.0
 tolerance degree : + 4.0

Control lever difference
 Grad : 17.0
 tolerance degree : + 6.0

Setting point w/out bumper spring

Rated speed rpm : 500
rack travel mm : 4.60
Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT min. : > 19.00

Testing:

Rated speed rpm : 500
rack travel mm : 5.10
Tolerance mm : + - 0.10

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 11.35
Tolerance mm : + - 0.05

Rated speed rpm : 800
rack travel mm : 12.15
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 800
Pressure hPa : 900

Rated speed rpm : 800
Pressure hPa : -
rack travel mm : 11.40
Tolerance mm : + - 0.20

MEASUREMENT

Rated speed rpm : 800
Pressure hPa : 650
rack travel mm : 11.65
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 107.5

Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 4.0

Aneroid pressure

hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 97.5
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + - 0.50
Del. quantity
cm³/1000 strokes : 120.5
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 15.0

LOW IDLE

Rated speed rpm : 500
Rack travel in mm : 5.10
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 18.5
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 4.5
Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.03.98
Test oil : ISO 4113

Combination No. : F 002 A02 043

Injection pump
Pump designation : PES6A95D320/3RS2881
EP type number : 9 410 037 215

Governor
Governor design. : RSV500...1100AOC925R
Governor no. : F 002 A20 233

Cust. part No. : 3932478

Customer-spec. information
Customer : CDC
Motor : 6BT
Power KW : 90.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Start of delivery blocking

*NW after s.o.d. : 7.00
Tolerance : + 0.50
Check
tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.85
Tolerance mm : + 0.05

Det. quantity _____
cm³/1000 strokes : 86.0

Tolerance _____
cm³/1000 strokes : + 1.0

Check tolerance _____
cm³/1000S. : + 3.0

Spread _____

Tolerance _____
cm³/1000 strokes : 3.5

Check tolerance _____
cm³/1000S. : 6.0

Rated speed rpm : 500

Rack travel in mm : 5.40
Tolerance mm : + 0.10

Det. quantity _____
cm³/1000 strokes : 18.5

Tolerance _____
cm³/1000 strokes : + 2.0

Check tolerance _____
cm³/1000S. : + 4.5

Spread _____

Tolerance _____
cm³/1000 strokes : 3.5

Check tolerance _____
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 3.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure
hPa : 900

Det. quantity _____
cm³/1000 strokes : 86.0

Tolerance _____
cm³/1000 strokes : + 1.0

Check tolerance _____
cm³/1000S. : + 3.0

Spread _____

Tolerance _____
cm³/1000 strokes : 3.5

Check tolerance _____
cm³/1000S. : 6.0

CONTROL LEVER

control lever
position degree : 94.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 9.80

Rated speed rpm : 1165
Tolerance 1/min : + 5

Check
speed 1/min : + 10

rack travel mm : 6.00
Rated speed rpm : 1220

Tolerance 1/min : + 5
Check
speed 1/min : + 10

rack travel mm : 0.85
Tolerance mm : + 0.55

Rated speed rpm : 1350

rack travel mm : 6.00
Rated speed rpm : 1225

Tolerance 1/min : + 15
Check
speed 1/min : + 20

LOW IDLE

control lever
position degree : 80.0
tolerance degree : + 4.0

Control lever difference
Grad : 14.0

tolerance degree : + 6.0

Setting point w/out bumper spring

Rated speed rpm : 500
rack travel mm : 4.90
Tolerance mm : \pm 0.10

Rated speed rpm : 100
CRT mm min. : > 19.00

Testing:

Rated speed rpm : 500
rack travel mm : 5.40
Tolerance mm : \pm 0.10

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 10.85
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 11.55
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 800
Pressure hPa : -

MEASUREMENT

Pressure hPa : 800
rack travel mm : 11.05
Tolerance mm : \pm 0.30

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 900
Rated speed rpm : 800
Del. quantity cm³/1000 strokes : 96.0
Tolerance cm³/1000 strokes : \pm 2.0
Check tolerance cm³/1000S. : \pm 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity cm³/1000 strokes : 120.5
Tolerance cm³/1000 strokes : \pm 10.0
Check tolerance cm³/1000S. : \pm 15.0

LOW IDLE

Rated speed rpm : 500
Rack travel in mm : 5.40
Tolerance mm : \pm 0.10
Del. quantity cm³/1000 strokes : 18.5
Tolerance cm³/1000 strokes : \pm 2.0
Check tolerance cm³/1000S. : \pm 4.5
Spread
Tolerance cm³/1000 strokes : 3.5
Check tolerance cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.03.98
Test oil : ISO 4113

Combination No. : F 002 A02 069

Injection pump
Pump designation : PES6A95D320/3RS2881
EP type number : 9 410 037 215

Governor
Governor design. : RSV500...1100A2C947R
Governor no. : F 002 A20 248

Cust. part No. : 3933623

Customer-spec. information

Customer : CDC
Motor : dBTA
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 8.50
Tolerance : + 0.50
Check tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.00

Tolerance mm : \pm 0.05
 Del. quantity cm³/1000 strokes : 109.5
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 3.0
 Spread
 Tolerance cm³/1000 strokes : 3.5
 Check tolerance cm³/1000S. : 6.0

 Rated speed rpm : 500
 Rack travel in mm : 5.50
 Tolerance mm : \pm 0.10
 Del. quantity cm³/1000 strokes : 21.5
 Tolerance cm³/1000 strokes : \pm 2.0
 Check tolerance cm³/1000S. : \pm 4.5
 Spread
 Tolerance cm³/1000 strokes : 3.5
 Check tolerance cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION
 control lever
 position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : \pm 0.20
 governor spring pre-tension
 click setting x : 3.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
 Aneroid pressure hPa : 1400
 Del. quantity cm³/1000 strokes : 109.5
 Tolerance cm³/1000 strokes : \pm 1.0
 Check tolerance cm³/1000S. : \pm 3.0
 Spread
 Tolerance cm³/1000 strokes : 3.5
 Check tolerance cm³/1000S. : 6.0

CONTROL LEVER

control lever
 position degree : 98.0
 tolerance degree : \pm 4.0

RATED SPEED
 rack travel mm : 12.00
 Rated speed rpm : 1155
 Tolerance 1/min : \pm 5
 Check
 speed 1/min : \pm 10

rack travel mm : 4.00
 Rated speed rpm : 1245
 Tolerance 1/min : \pm 5
 Check
 speed 1/min : \pm 10

rack travel mm : 0.85
 Tolerance mm : \pm 0.55
 Rated speed rpm : 1400

rack travel mm : 4.00
 Rated speed rpm : 1245
 Tolerance 1/min : \pm 15
 Check
 speed 1/min : \pm 20

LOW IDLE

control lever
 position degree : 78.0
 tolerance degree : \pm 4.0

Control Lever difference
 Grad : 20.0
 tolerance degree : \pm 6.0

Setting point w/out bumper spring

Rated speed rpm : 500
rack travel mm : 5.00
Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT min. : > 19.00

Testing:

Rated speed rpm : 500
rack travel mm : 5.50
Tolerance mm : + - 0.10

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.00
Tolerance mm : + - 0.05

Rated speed rpm : 750
rack travel mm : 14.65
Tolerance mm : + - 0.10

Rated speed rpm : 1000
rack travel mm : 13.80
Tolerance mm : + - 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1400

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.60
Tolerance mm : + - 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 800
rack travel mm : 13.50
Tolerance mm : + - 0.20

Pressure hPa : 600
rack travel mm : 12.00
Tolerance mm : + - 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1400
Rated speed rpm : 750
Del. quantity cm³/1000 strokes : 132.5
Tolerance cm³/1000 strokes : + - 2.0
Check tolerance cm³/1000S. : + - 4.0

rack travel mm : 13.80
Tolerance mm : + - 0.20

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 82.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + - 0.50
Del. quantity cm³/1000 strokes : 121.5
Tolerance cm³/1000 strokes : + - 10.0
Check tolerance cm³/1000S. : + - 15.0

LOW IDLE

Rated speed rpm : 500
Rack travel in mm : 5.50
Tolerance mm : + - 0.10
Del. quantity cm³/1000 strokes : 21.5
Tolerance cm³/1000 strokes : + - 2.0
Check tolerance cm³/1000S. : + - 4.5
Spread
Tolerance cm³/1000 strokes : 3.5

Check tolerance
cm³/1000s. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.95
Test oil : ISO 4113

Combination No. : 0 401 646 003

Injection pump
Pump designation : PES6R120/720LS1505
: -1
EP type number : 0 411 626 005

Governor
Governor design. : RQV300...1100RJK
Governor no. : 0 421 415 004

Cust. part No. : 51.11103-7393

Customer spec. information

Customer : MAN
Motor : D2866LE401
Power KW : 440.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.45
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 12.00
Tolerance mm : + 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 15.30
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 385.0

Tolerance
 cm³/1000 strokes : + 1.0

 Check tolerance
 cm³/1000S. : + 4.0

 Spread

 Tolerance
 cm³/1000 strokes : 6.0

 Check tolerance
 cm³/1000S. : 10.0

 Rated speed rpm : 325

 Rack travel in mm : 5.10
 Tolerance mm : + 0.10
 Del. quantity
 cm³/1000 strokes : 20.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spread

 Tolerance
 cm³/1000 strokes : 10.0
 Check tolerance
 cm³/1000S. : 14.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1164
 guide sleeve
 travel mm : 10.04
 Tolerance mm : + 0.25

Rated speed rpm : 325
 guide sleeve
 travel mm : 2.12
 Tolerance mm : + 0.25

Rated speed rpm : 826
 guide sleeve
 travel mm : 6.86
 Tolerance mm : + 0.25

Rated speed rpm : 338
 guide sleeve
 travel mm : 2.28
 Tolerance mm : + 0.25

Rated speed rpm : 388

guide sleeve
 travel mm : 2.90
 Tolerance mm : + 0.25

 Rated speed rpm : 510
 guide sleeve
 travel mm : 4.02
 Tolerance mm : + 0.25

 Rated speed rpm : 1430
 guide sleeve
 travel mm : 13.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1230

Rack travel in mm : 14.30
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
 Aneroid pressure
 hPa : 2500
 Del. quantity
 cm³/1000 strokes : 385.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spread

 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

CONTROL LEVER

control lever
 position degree : 122.0
 tolerance degree : + 4.0

RATED SPEED
 rack travel mm : 14.30
 Rated speed rpm : 1152
 Tolerance 1/min : + 8

rack travel mm : 4.00
 Rated speed rpm : 1295
 Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1425

LOW IDLE

control lever
position degree : 76.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. : > 7.00

Testing:

Rated speed rpm : 325
rack travel mm : 5.10
Tolerance mm : + 0.10

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 15.30
Tolerance mm : + 0.05

Rated speed rpm : 900
rack travel mm : 13.90
Tolerance mm : + 0.10

Rated speed rpm : 700
rack travel mm : 12.60
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 2500
rack travel mm : 15.30
Tolerance mm : + 0.05

Rated speed rpm : 1100
Pressure hPa : -
rack travel mm : 8.20
Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 1100

Pressure hPa : 1400
rack travel mm : 13.70
Tolerance mm : + 0.20

Pressure hPa : 300
rack travel mm : 8.60
Tolerance mm : + 0.05

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 260

Check
speed 1/min : > 80
Check
speed 1/min : < 280

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 2500
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 353.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : 2500
Rated speed rpm : 700
rack travel mm : 12.60
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 327.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 187.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 555.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 325
Rack travel in mm : 5.10
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Speed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.06.93
Test oil : ISO 4113

Combination No. : 0 401 846 975

Injection pump
Pump designation : PE6P110A720RS3243
EP type number : 0 411 816 770

Governor
Governor design. : RQ300/1100PA412-5
Governor no. : 0 421 801 562

Cust. part No. : 615.60.08.0267

Customer-spec. information
Customer : SNF
Motor : WDS15.63
Power KW : 204.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.70

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.75
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 165.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance cm³/1000s. : + - 4.0

Spread

Tolerance cm³/1000 strokes : 4.0

Check tolerance cm³/1000s. : + - 7.5

Rack travel in mm : 4.00
Tolerance mm : + - 0.10

Del. quantity cm³/1000 strokes : 20.0

Tolerance cm³/1000 strokes : + - 3.0

Check tolerance cm³/1000s. : + - 6.0

Spread

Tolerance cm³/1000 strokes : 4.5

Check tolerance cm³/1000s. : + - 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1157
guide sleeve

travel mm : 6.46
Tolerance mm : + - 0.10

Rated speed rpm : 300
guide sleeve

travel mm : 1.99
Tolerance mm : + - 0.10

Rated speed rpm : 1100
guide sleeve

travel mm : 6.00
Tolerance mm : + - 0.10

Rated speed rpm : 378
guide sleeve

travel mm : 3.69
Tolerance mm : + - 0.10

Rated speed rpm : 510
guide sleeve

travel mm : 6.00
Tolerance mm : + - 0.10

Rated speed rpm : 1330
guide sleeve travel mm : 11.50
Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

control lever position degree : - 1
Rated speed rpm : 600

Rack travel in mm : 15.00
Tolerance mm : + - 0.40

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure hPa : -

Del. quantity cm³/1000 strokes : 165.0

Tolerance cm³/1000 strokes : + - 1.0

Check tolerance cm³/1000s. : + - 4.0

Spread

Tolerance cm³/1000 strokes : 4.0

Check tolerance cm³/1000s. : + - 7.5

CONTROL LEVER

control lever position degree : 100.0
tolerance degree : + - 4.0

RATED SPEED

rack travel mm : 11.70
Rated speed rpm : 1153
Tolerance 1/min : + - 8

rack travel mm : 4.00
Rated speed rpm : 1250
Tolerance 1/min : + - 15

rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 100
CRT mm min. : > 5.50

Testing:

Rated speed rpm : 300
rack travel mm : 4.00
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 370
Tolerance 1/min : + - 20

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.75
Tolerance mm : + - 0.05

Rated speed rpm : 700
rack travel mm : 12.75
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 12.75
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.00
Tolerance mm : + - 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 325
rack travel mm : 10.40
Tolerance mm : + - 0.10

Pressure hPa : 500
rack travel mm : 11.95
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -
Del. quantity cm³/1000 strokes : 174.0
Tolerance cm³/1000 strokes : + - 2.0
Check tolerance cm³/1000S. : + - 5.0

Aneroid pressure hPa : -
Del. quantity cm³/1000 strokes : 121.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 18.00
Tolerance mm : + - 0.50
Del. quantity cm³/1000 strokes : 252.0
Tolerance cm³/1000 strokes : + - 20.0
Check tolerance cm³/1000S. : + - 24.0

LOW IDLE

Rack travel in mm : 4.00
Tolerance mm : + - 0.10
Del. quantity cm³/1000 strokes : 20.0
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0
Spread
Tolerance cm³/1000 strokes : 4.5
Check tolerance cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.06.93
Test oil : ISO 4113

Combination No. : 0 401 846 976

Injection pump
Pump designation : PE6P110A720RS3243
EP type number : 0 411 816 770

Governor
Governor design. : RQ300/1100PA412-4
Governor no. : 0 421 801 496

Cust. part No. : 615.60.08.0268

Customer spec. information
Customer : SNF
Motor : WD615.68
Power KW : 228.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.75
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 184.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000s. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000s. : 7.5

Rack travel in mm : 4.00
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 18.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000s. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000s. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL.

Rated speed rpm : 1158
guide sleeve

travel mm : 6.43
Tolerance mm : + 0.10

Rated speed rpm : 300

guide sleeve
travel mm : 1.97

Tolerance mm : + 0.10

Rated speed rpm : 1100

guide sleeve
travel mm : 6.00

Tolerance mm : + 0.10

Rated speed rpm : 378

guide sleeve
travel mm : 3.66

Tolerance mm : + 0.10

Rated speed rpm : 510

guide sleeve
travel mm : 6.00

Tolerance mm : + 0.10

Rated speed rpm : 1330
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 600

Rack travel in mm : 16.00
Tolerance mm : + 0.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 184.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000s. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000s. : 7.5

CONTROL LEVER

control lever
position degree : 103.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.70
Rated speed rpm : 1153
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1255
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 5.50

Testing:

Rated speed rpm : 300
rack travel mm : 4.00
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 370
Tolerance 1/min : + 20

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.75
Tolerance mm : + 0.05

Rated speed rpm : 700
rack travel mm : 13.75
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.75
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.05
Tolerance mm : + 0.15

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 375
rack travel mm : 11.00
Tolerance mm : + 0.10

Pressure hPa : 630
rack travel mm : 12.95
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 194.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 245.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 24.0

LOW IDLE

Rack travel in mm : 4.00
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.06.93
Test oil : ISO 4113

Combination No. : 0 401 846 977

Injection pump
Pump designation : PE6P110A720RS3243
EP type number : 0 411 816 770

Governor
Governor design. : RQV250...1100PA413
: -5
Governor no. : 0 421 813 811

Cust. part No. : 615.60.08.0269

Customer-spec. information

Customer : SNF
Motor : WD615.68
Power KW : 228.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + - 1.0

Prestroke mm : 2.85
Tolerance mm : + - 0.05
Check tolerance mm : + - 0.10

Rack travel in mm : 10.50
Tolerance mm : + - 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + - 0.50
Check tolerance °NW : + - 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.75
Tolerance mm : + - 0.05

Del. quantity
cm³/1000 strokes : 184.0

Tolerance
 cm³/1000 strokes : + - 1.0

 Check tolerance
 cm³/1000S. : + - 4.0

 Spread

 Tolerance
 cm³/1000 strokes : 4.0

 Check tolerance
 cm³/1000S. : 7.5

Rack travel in mm : 4.00
 Tolerance mm : + - 0.10
 Del. quantity
 cm³/1000 strokes : 18.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 4.5
 Check tolerance
 cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1157
 guide sleeve
 travel mm : 8.51
 Tolerance mm : + - 0.25

Rated speed rpm : 250
 guide sleeve
 travel mm : 1.13
 Tolerance mm : + - 0.25

Rated speed rpm : 816
 guide sleeve
 travel mm : 5.35
 Tolerance mm : + - 0.25

Rated speed rpm : 356
 guide sleeve
 travel mm : 1.99
 Tolerance mm : + - 0.25

Rated speed rpm : 406

guide sleeve
 travel mm : 2.42
 Tolerance mm : + - 0.25

 Rated speed rpm : 510
 guide sleeve
 travel mm : 3.11
 Tolerance mm : + - 0.25

 Rated speed rpm : 1390
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1210

 Rack travel in mm : 12.75
 Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 184.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

CONTROL LEVER

control lever
 position degree : 108.0
 tolerance degree : + - 4.0

RATED SPEED
 rack travel mm : 12.70
 Rated speed rpm : 1145
 Tolerance 1/min : + - 5

rack travel mm : 4.00
 Rated speed rpm : 1255
 Tolerance 1/min : + - 15

rack travel mm : 0.50

Tolerance mm : + - 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 72.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 5.50

Testing:

Rated speed rpm : 250
rack travel mm : 4.00
Tolerance mm : + - 0.10

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.75
Tolerance mm : + - 0.05

Rated speed rpm : 700
rack travel mm : 13.75
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.75
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.05
Tolerance mm : + - 0.15

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 375
rack travel mm : 11.00

Tolerance mm : + - 0.10
Pressure hPa : 630
rack travel mm : 12.95
Tolerance mm : + - 0.05

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 170

Check
speed 1/min : > 80
Check
speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Del. quantity
cm3/1000 strokes : 195.0
Tolerance
cm3/1000 strokes : + - 3.0
Check tolerance
cm3/1000S. : + - 6.0

Aneroid pressure
hPa : -
Del. quantity
cm3/1000 strokes : 120.0
Tolerance
cm3/1000 strokes : + - 1.0
Check tolerance
cm3/1000S. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 245.0
Tolerance
cm3/1000 strokes : + - 20.0
Check tolerance
cm3/1000S. : + - 24.0

LOW IDLE

Rack travel in mm : 4.00
Tolerance mm : + - 0.10

Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.06.93
Test oil : ISO 4113

Combination No. : 0 401 846 978

Injection pump
Pump designation : PE6P110A720RS3243-1
EP type number : 0 411 816 791

Governor
Governor design. : RQ300/1100PA412-8
Governor no. : 0 421 801 683

Cust. part No. : 615.60.08.0270

Customer-spec. information
Customer : SNF
Motor : WD615.97

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.25
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 184.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rack travel in mm : 3.80
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 18.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1158

guide sleeve
travel mm : 6.44

Tolerance mm : + 0.10

Rated speed rpm : 300

guide sleeve
travel mm : 1.98

Tolerance mm : + 0.10

Rated speed rpm : 1100

guide sleeve
travel mm : 6.00

Tolerance mm : + 0.10

Rated speed rpm : 373

guide sleeve
travel mm : 3.53

Tolerance mm : + 0.10

Rated speed rpm : 510

guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 1330
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 600

Rack travel in mm : 16.00
Tolerance mm : + 0.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure

hPa : -

Del. quantity
cm³/1000 strokes : 184.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 102.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.20
Rated speed rpm : 1153

Tolerance 1/min : + 8

rack travel mm : 4.00

Rated speed rpm : 1255
Tolerance 1/min : + 15

rack travel mm : 0.60

Tolerance mm : + 0.60

Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm/min. : > 5.20

Testing:

Rated speed rpm : 300
rack travel mm : 3.80
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 370
Tolerance 1/min : + 20

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.25
Tolerance mm : + 0.05

Rated speed rpm : 700
rack travel mm : 13.25
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.25
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.70
Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 375
rack travel mm : 10.70
Tolerance mm : + 0.10

Pressure hPa : 630
rack travel mm : 12.45
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -
Del. quantity cm³/1000 strokes : 190.0
Tolerance cm³/1000 strokes : + 2.0
Check tolerance cm³/1000S. : + 5.0

Aneroid pressure hPa : -
Del. quantity cm³/1000 strokes : 120.0
Tolerance cm³/1000 strokes : + 1.0
Check tolerance cm³/1000S. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 18.50
Tolerance mm : + 0.50
Del. quantity cm³/1000 strokes : 245.0
Tolerance cm³/1000 strokes : + 20.0
Check tolerance cm³/1000S. : + 24.0

LOW IDLE

Rack travel in mm : 3.80
Tolerance mm : + 0.10
Del. quantity cm³/1000 strokes : 18.0
Tolerance cm³/1000 strokes : + 3.0
Check tolerance cm³/1000S. : + 6.0
Spread
Tolerance cm³/1000 strokes : 4.5

Check tolerance
cm³/1000s. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.93
Test oil : ISO 4113

Combination No. : 0 401 846 979

Injection pump
Pump designation : PE6P110A720RS3243
EP type number : 0 411 816 770

Governor
Governor design. : RQV250...1100PA413
: -6
Governor no. : 0 421 813 898

Cust. part No. : 615.60.08.0271

Customer-spec. information

Customer : SNF
Motor : WD615.63
Power KW : 204.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.75
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 165.0

Tolerance
 cm³/1000 strokes : + - 1.0

 Check tolerance
 cm³/1000S. : + - 4.0

 Spread

 Tolerance
 cm³/1000 strokes : 4.0

 Check tolerance
 cm³/1000S. : 7.5

Rack travel in mm : 4.50
 Tolerance mm : + - 0.10
 Del. quantity
 cm³/1000 strokes : 23.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 4.5
 Check tolerance
 cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1157
 guide sleeve
 travel mm : 8.51
 Tolerance mm : + - 0.25

Rated speed rpm : 250
 guide sleeve
 travel mm : 1.13
 Tolerance mm : + - 0.25

Rated speed rpm : 816
 guide sleeve
 travel mm : 5.35
 Tolerance mm : + - 0.25

Rated speed rpm : 356
 guide sleeve
 travel mm : 1.99
 Tolerance mm : + - 0.25

Rated speed rpm : 406

guide sleeve
 travel mm : 2.42
 Tolerance mm : + - 0.25

 Rated speed rpm : 510
 guide sleeve
 travel mm : 3.11
 Tolerance mm : + - 0.25

 Rated speed rpm : 1390
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1220

Rack travel in mm : 11.75
 Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 165.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

CONTROL LEVER

control lever
 position degree : 110.0
 tolerance degree : + - 4.0

RATED SPEED
 rack travel mm : 11.70
 Rated speed rpm : 1145
 Tolerance 1/min : + - 5

rack travel mm : 4.00
 Rated speed rpm : 1255
 Tolerance 1/min : + - 15

rack travel mm : 0.50

Tolerance mm : + - 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 78.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 6.00

Testing:

Rated speed rpm : 250
rack travel mm : 4.50
Tolerance mm : + - 0.10

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.75
Tolerance mm : + - 0.05

Rated speed rpm : 700
rack travel mm : 12.75
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 12.75
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.00
Tolerance mm : + - 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 325
rack travel mm : 10.40

Tolerance mm : + - 0.10
Pressure hPa : 500
rack travel mm : 11.95
Tolerance mm : + - 0.05

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 170

Check
speed 1/min : > 80
Check
speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 176.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 121.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 18.00
Tolerance mm : + - 0.50
Del. quantity
cm³/1000 strokes : 252.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rack travel in mm : 4.50
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.93
Test oil : ISO 4113

Combination No. : 0 401 846 980

Injection pump
Pump designation : PE6P110A720RS3243
EP type number : 0 411 816 770

Governor
Governor design. : RQ300/1100PA412-9
Governor no. : 0 421 801 696

Cust. part No. : 615.60.08.0277

Customer-spec. information

Customer : SNF
Motor : WD615.42/43

TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.80
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 155.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance cm³/1000s. : + 4.0
 Spread
 Tolerance cm³/1000 strokes : 4.0
 Check tolerance cm³/1000s. : 7.5
 Rated speed rpm : 300
 Rack travel in mm : 3.50
 Tolerance mm : + 0.10
 Del. quantity cm³/1000 strokes : 13.0
 Tolerance cm³/1000 strokes : + 3.0
 Check tolerance cm³/1000s. : + 6.0
 Spread
 Tolerance cm³/1000 strokes : 4.5
 Check tolerance cm³/1000s. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1169
 guide sleeve travel mm : 6.45
 Tolerance mm : + 0.10
 Rated speed rpm : 300
 guide sleeve travel mm : 1.70
 Tolerance mm : + 0.10
 Rated speed rpm : 1100
 guide sleeve travel mm : 6.00
 Tolerance mm : + 0.10
 Rated speed rpm : 364
 guide sleeve travel mm : 3.04
 Tolerance mm : + 0.10
 Rated speed rpm : 520
 guide sleeve travel mm : 6.00

Tolerance mm : + 0.10
 Rated speed rpm : 1340
 guide sleeve travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever position degree : - 1
 Rated speed rpm : 600
 Rack travel in mm : 16.00
 Tolerance mm : + 0.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
 Aneroid pressure hPa : -
 Del. quantity cm³/1000 strokes : 155.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000s. : + 4.0
 Spread
 Tolerance cm³/1000 strokes : 4.0
 Check tolerance cm³/1000s. : 7.5

CONTROL LEVER

control lever position degree : 103.0
 tolerance degree : + 4.0
 RATED SPEED
 rack travel mm : 11.80
 Rated speed rpm : 1165
 Tolerance 1/min : + 8
 rack travel mm : 4.00
 Rated speed rpm : 1265
 Tolerance 1/min : + 15
 rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 72.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 5.00

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 360
Tolerance 1/min : + - 20

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.80
Tolerance mm : + - 0.05

Rated speed rpm : 700
rack travel mm : 12.80
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST**SETTING**

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 12.80
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.75
Tolerance mm : + - 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 580
rack travel mm : 12.40
Tolerance mm : + - 0.10

Pressure hPa : 310
rack travel mm : 10.10
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -
Rated speed rpm : 700
Del. quantity cm³/1000 strokes : 170.0
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 120.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 18.00
Tolerance mm : + - 0.50
Del. quantity cm³/1000 strokes : 260.0
Tolerance cm³/1000 strokes : + - 10.0
Check tolerance cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 3.50
Tolerance mm : + - 0.10
Del. quantity cm³/1000 strokes : 13.0
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0
Spread

Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.93
Test oil : ISO 4113

Combination No. : 0 401 846 981

Injection pump
Pump designation : PE6P110A720RS3243
EP type number : 0 411 816 770

Governor
Governor design. : RQV250...1100PA413
: -7
Governor no. : 0 421 814 073

Cust. part No. : 615.60.08.0283

Customer-spec. information

Customer : SNF
Motor : WD615.42/43

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.80
Tolerance mm : + 0.05

Del. quantity
cm3/1000 strokes : 155.0

Tolerance
 cm³/1000 strokes : + - 1.0

 Check tolerance
 cm³/1000S. : + - 4.0

 Spread

 Tolerance
 cm³/1000 strokes : 4.0

 Check tolerance
 cm³/1000S. : 7.5

Rated speed rpm : 250

 Rack travel in mm : 3.50
 Tolerance mm : + - 0.10
 Del. quantity
 cm³/1000 strokes : 13.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spread

 Tolerance
 cm³/1000 strokes : 4.5
 Check tolerance
 cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1177
 guide sleeve
 travel mm : 8.75
 Tolerance mm : + - 0.15

 Rated speed rpm : 250
 guide sleeve
 travel mm : 1.13
 Tolerance mm : + - 0.20

 Rated speed rpm : 824
 guide sleeve
 travel mm : 5.41
 Tolerance mm : + - 0.25

 Rated speed rpm : 356
 guide sleeve
 travel mm : 1.99
 Tolerance mm : + - 0.25

 Rated speed rpm : 406

guide sleeve
 travel mm : 2.42
 Tolerance mm : + - 0.25

 Rated speed rpm : 510
 guide sleeve
 travel mm : 3.11
 Tolerance mm : + - 0.25

 Rated speed rpm : 1390
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1260

 Rack travel in mm : 11.80
 Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 155.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread

 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

CONTROL LEVER

control lever
 position degree : 106.0
 tolerance degree : + - 4.0

RATED SPEED
 rack travel mm : 11.80
 Rated speed rpm : 1165
 Tolerance 1/min : + - 5

 rack travel mm : 4.00
 Rated speed rpm : 1255
 Tolerance 1/min : + - 15

rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 1350

Pressure hPa : 580
rack travel mm : 12.40
Tolerance mm : + - 0.10

LOW IDLE

control lever
position degree : 72.0
tolerance degree : + - 4.0

Pressure hPa : 310
rack travel mm : 10.10
Tolerance mm : + - 0.05

Setting point w/out bumper spring

Start interlock

Rated speed rpm : 150
CRT mm min. : > 5.50

Rated speed rpm : > 100
Rated speed rpm : < 170

Testing:

Check
speed 1/min : > 80
Check
speed 1/min : < 190

Rated speed rpm : 250
rack travel mm : 3.50
Tolerance mm : + - 0.10

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 300
rack travel mm : 2.00

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0

TORQUE CONTROL
Rated speed rpm : 1100
rack travel mm : 12.80
Tolerance mm : + - 0.05

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 12.80
Tolerance mm : + - 0.05

STARTING FUEL DELIVERY

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.75
Tolerance mm : + - 0.10

Rated speed rpm : 100
rack travel mm : 18.00
Tolerance mm : + - 0.50
Del. quantity
cm³/1000 strokes : 260.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

MEASUREMENT

Rated speed rpm : 500

LOW IDLE

Rated speed rpm : 250

Rack travel in mm : 3.50

Tolerance mm : + 0.10

Del. quantity

cm³/1000 strokes : 13.0

Tolerance

cm³/1000 strokes : + 3.0

Check tolerance

cm³/1000S. : + 6.0

Spread

Tolerance

cm³/1000 strokes : 4.5

Check tolerance

cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.03.94
Test oil : ISO 4113

Combination No. : 0 401 849 755

Injection pump
Pump designation : PE10P110A920/5LS3164
EP type number : 0 411 819 708

Governor
Governor design. : RQV300...1150PA549
: -6
Governor no. : 0 421 814 029

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : EF10L513
Power KW : 278.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1-10- 9- 4- 3- 6
: - 5- 8- 7- 2

Phasing : 0-27-72-99-144-171
: -216-243-288-315
Tolerance : + 0.30
Check tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 300
Rack travel in mm : 7.00
Tolerance mm : + 0.10
Del. quantity cm³/1000 strokes : 15.0
Tolerance cm³/1000 strokes : + 3.0
Check tolerance cm³/1000S. : + 5.0
Spread

Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1290

Rack travel in mm : 9.70
Tolerance mm : + - 1.30

CONTROL LEVER

control lever
position degree : 55.0
tolerance degree : + - 4.0

control lever
position degree : 123.0
tolerance degree : + - 4.0

RATED SPEED
rack travel mm : 10.70
Rated speed rpm : 1195
Tolerance 1/min : + - 5

rack travel mm : 4.00
Rated speed rpm : 1300
Tolerance 1/min : + - 15

rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 90.0
tolerance degree : + - 4.0

control lever
position degree : 19.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
CRT min. : > 10.10

Testing:

Rated speed rpm : 300
rack travel mm : 7.00
Tolerance mm : + - 0.10

Rated speed rpm : 385

TORQUE CONTROL

Rated speed rpm : 800
rack travel mm : 11.75
Tolerance mm : + - 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 11.75
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.75
Tolerance mm : + - 0.20

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 420
rack travel mm : 11.00
Tolerance mm : + - 0.10

Pressure hPa : 450
rack travel mm : 11.45
Tolerance mm : + - 0.05

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 220

Check
speed 1/min : > 80
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -
Rated speed rpm : 450
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 7.00
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 5.0
Spread
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.93
Test oil : ISO 4113

Combination No. : 0 401 878 717

Injection pump
Pump designation : PE8P110A320LS3853-1
EP type number : 0 411 818 726

Governor
Governor design. : RSV400...1000PA554
Governor no. : 0 421 833 376

Cust. part No. : 9273614

Customer-spec. information

Customer : LIEBHERR
Motor : D 9308 TI
Power KW : 288.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inject press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.85
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 8- 7- 2- 6
: - 3- 5- 4

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : + 0.30
Check tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 14.65
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 197.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000s. : + 4.0

Spread

Tolerance
 cm³/1000 strokes : 4.0

 Check tolerance
 cm³/1000S. : 7.5

Rated speed rpm : 400
 Del. quantity
 cm³/1000 strokes : 15.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

control lever
 position degree : 100.0
 tolerance degree : + - 4.0

RATED SPEED
 rack travel mm : 13.65
 Rated speed rpm : 945
 Tolerance 1/min : + - 5

rack travel mm : 4.00
 Rated speed rpm : 1000
 Tolerance 1/min : + - 15

rack travel mm : 0.85
 Tolerance mm : + - 0.55
 Rated speed rpm : 1100

rack travel mm : 4.00
 Rated speed rpm : 1030
 Tolerance 1/min : + - 15

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800

Rack travel in mm : 0.50
 Tolerance mm : + - 0.20

LOW IDLE

control lever
 position degree : 75.0
 tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
 rack travel mm : 5.70
 Tolerance mm : + - 0.10

Testing:

rack travel mm : 2.00
 Rated speed rpm : 520
 Tolerance 1/min : + - 30

TORQUE CONTROL
 Rated speed rpm : 900
 rack travel mm : 14.65
 Tolerance mm : + - 0.05

Rated speed rpm : 500
 rack travel mm : 14.65
 Tolerance mm : + - 0.10

Rated speed rpm : 350
 rack travel mm : 16.10
 Tolerance mm : + - 0.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
 Aneroid pressure
 hPa : 1500
 Del. quantity
 cm³/1000 strokes : 197.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

CONTROL LEVER

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1500
rack travel mm : 14.65
Tolerance mm : \pm 0.05

Rated speed rpm : 600
Pressure hPa : -
rack travel mm : 13.65
Tolerance mm : \pm 0.10

MEASUREMENT

Rated speed rpm : 600
Pressure hPa : 710
rack travel mm : 13.90
Tolerance mm : \pm 0.10

Pressure hPa : 780
rack travel mm : 14.40
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

rack travel mm : 16.10
Tolerance mm : \pm 0.30

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 172.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50

Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.01.94
Test oil : ISO 4113

Combination No. : 0 402 046 339

Injection pump
Pump designation : PES6P110A720LS524
EP type number : 0 412 016 073

Governor
Governor design. : RQ750PA661-1
Governor no. : 0 421 801 330

Cust. part No. : 2-7966

Customer-spec. information

Customer : MAN
Motor : D2866E
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 144.5

Tolerance
cm³/1000 strokes : + 1.5

Check tolerance cm³/1000S. : + 4.0
 Spread _____
 Tolerance cm³/1000 strokes : 4.0
 Check tolerance cm³/1000S. : 7.5
 Rated speed rpm : 250
 Rack travel in mm : 6.10
 Tolerance mm : + 0.10
 Del. quantity cm³/1000 strokes : 17.5
 Tolerance cm³/1000 strokes : + 2.5
 Check tolerance cm³/1000S. : + 5.0
 Spread
 Tolerance cm³/1000 strokes : 4.5
 Check tolerance cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure hPa : -
 Del. quantity cm³/1000 strokes : 144.5
 Tolerance cm³/1000 strokes : + 1.5
 Check tolerance cm³/1000S. : + 4.0
 Spread
 Tolerance cm³/1000 strokes : 4.0
 Check tolerance cm³/1000S. : 7.5

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
 rack travel mm : 12.40
 Rated speed rpm : 804

Tolerance 1/min	: +	4
rack travel mm	:	4.00
rack travel mm	:	0.50
Tolerance mm	: +	0.50
Rated speed rpm	:	950
Rated speed rpm	:	751
rack travel mm	:	12.40
Rated speed rpm	:	805
Tolerance 1/min	: +	4
rack travel mm	:	4.00
rack travel mm	:	0.50
Tolerance mm	: +	0.50
Rated speed rpm	:	950
Rated speed rpm	:	752
rack travel mm	:	12.40
Rated speed rpm	:	806
Tolerance 1/min	: +	4
rack travel mm	:	4.00
rack travel mm	:	0.50
Tolerance mm	: +	0.50
Rated speed rpm	:	950
Rated speed rpm	:	753
rack travel mm	:	12.40
Rated speed rpm	:	807
Tolerance 1/min	: +	4
rack travel mm	:	4.00
rack travel mm	:	0.50
Tolerance mm	: +	0.50
Rated speed rpm	:	950
Rated speed rpm	:	754
rack travel mm	:	12.40
Rated speed rpm	:	808
Tolerance 1/min	: +	4
rack travel mm	:	4.00
rack travel mm	:	0.50
Tolerance mm	: +	0.50
Rated speed rpm	:	950
Rated speed rpm	:	755
rack travel mm	:	12.40
Rated speed rpm	:	809

Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 950

End of test specification sheet

LOW IDLE

Testing:

Rated speed rpm : 250
rack travel mm : 6.10
Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.45
Tolerance mm : + 0.05

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 250

Rack travel in mm : 6.10
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 17.5
Tolerance
cm³/1000 strokes : + 2.5
Check tolerance
cm³/1000S. : + 5.0
Spread
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.01.94
Test oil : ISO 4113

Combination No. : 0 402 046 810

Injection pump
Pump designation : PES6P120A720LS3229
EP type number : 0 412 026 733

Governor
Governor design. : RQ750PA661-4
Governor no. : 0 421 801 361

Cust. part No. :

Customer-spec. information

Customer : MAN
Motor : D2866TE
Power KW : 190.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.85
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : C-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.25
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 232.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000s. : + 4.0

Spred

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000s. : 9.0

Rated speed rpm : 303

Rack travel in mm : 4.70
Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 27.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000s. : + 6.0

Spred

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000s. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 232.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000s. : + 4.0

Spred

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000s. : 9.0

RATED SPEED

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 950

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
rack travel mm : 10.20

Rated speed rpm : 786
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 950

Rated speed rpm : 751
rack travel mm : 10.20

Rated speed rpm : 787
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 950

Rated speed rpm : 752
rack travel mm : 10.20

Rated speed rpm : 788
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 950

Rated speed rpm : 753
rack travel mm : 10.20

Rated speed rpm : 789
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 950

Rated speed rpm : 754
rack travel mm : 10.20

Rated speed rpm : 790
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50

Rated speed rpm : 950

Rated speed rpm : 755
rack travel mm : 10.20

Rated speed rpm : 791
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 950

LOW IDLE

Testing:

Rated speed rpm : 300
rack travel mm : 4.70
Tolerance mm : + 0.20

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 11.25
Tolerance mm : + 0.05

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 4.70

Tolerance mm : + 0.20

Del. quantity

cm³/1000 strokes : 27.0

Tolerance

cm³/1000 strokes : + 3.0

Check tolerance

cm³/1000S. : + 6.0

Spread

Tolerance

cm³/1000 strokes : 8.0

Check tolerance

cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.01.94
Test oil : ISO 4113

Combination No. : 0 402 046 814

Injection pump
Pump designation : PES6P120A720LS3229
EP type number : 0 412 026 733

Governor
Governor design. : RQ750PA945
Governor no. : 0 421 801 512

Cust. part No. : 2-7970

Customer-spec. information
Customer : MAN
Motor : D2866LE
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 683 901 019

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.85
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.55
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 282.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance cm³/1000S. : + 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 Rated speed rpm : 300
 Rack travel in mm : 4.40
 Tolerance mm : + 0.30
 Del. quantity cm³/1000 strokes : 27.0
 Tolerance cm³/1000 strokes : + 3.0
 Check tolerance cm³/1000S. : + 6.0
 Spread
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure hPa : -
 Del. quantity cm³/1000 strokes : 282.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

RATED SPEED

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 950

ASSEMBLY GOVERNOR SETTING

Rated speed rpm	:	750
rack travel mm	:	11.50
Rated speed rpm	:	791
Tolerance 1/min	:	+ 4
rack travel mm	:	4.00
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	950
Rated speed rpm	:	751
rack travel mm	:	11.50
Rated speed rpm	:	792
Tolerance 1/min	:	+ 4
rack travel mm	:	4.00
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	950
Rated speed rpm	:	752
rack travel mm	:	11.50
Rated speed rpm	:	793
Tolerance 1/min	:	+ 4
rack travel mm	:	4.00
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	950
Rated speed rpm	:	753
rack travel mm	:	11.50
Rated speed rpm	:	794
Tolerance 1/min	:	+ 4
rack travel mm	:	4.00
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	950
Rated speed rpm	:	754
rack travel mm	:	11.50
Rated speed rpm	:	795
Tolerance 1/min	:	+ 4
rack travel mm	:	4.00
rack travel mm	:	0.50
Tolerance mm	:	+ 0.50

Rated speed rpm : 950

Rated speed rpm : 755
rack travel mm : 11.50

Rated speed rpm : 796
Tolerance 1/min : + - 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 950

LOW IDLE

Testing:

Rated speed rpm : 300
rack travel mm : 4.40
Tolerance mm : + - 0.30

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 12.55
Tolerance mm : + - 0.05

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 4.40

Tolerance mm : + - 0.30

Del. quantity

cm³/1000 strokes : 27.0

Tolerance

cm³/1000 strokes : + - 3.0

Check tolerance

cm³/1000S. : + - 6.0

Spread

Tolerance

cm³/1000 strokes : 8.0

Check tolerance

cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.06.93
Test oil : ISO 4113

Combination No. : 0 402 046 822

Injection pump
Pump designation : PES6P110A320RS3278
EP type number : 0 412 016 735

Governor
Governor design. : PQ750PA1000
Governor no. : 0 421 801 584

Cust. part No. :

Customer spec. information
Customer : RVI
Motor : MIDR 060226
Power KW : 129.0

TEST BENCH REQUIREMENTS

Inlet line : 1.4

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 4.85
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

Beginning of delivery difference

and maximum rack
travel : 10.50
Tolerance mm : + 0.50

CRT ZERO POSITION

Rack travel in mm : 14.15
Tolerance mm : + 0.05

BASIC SETTING

Rated speed rpm : 700

Rated speed rpm	: 275		rack travel mm	: -13.65
Rack travel in mm	: -6.65		Tolerance mm	: + 0.55
Tolerance mm	: + 0.15		Rated speed rpm	: 900
Del. quantity				
cm ³ /1000 strokes	: 15.5			
Tolerance				
cm ³ /1000 strokes	: + 2.5		Rated speed rpm	: 752
Check tolerance			rack travel mm	: -1.00
cm ³ /1000S.	: + 5.0			
Spred			Rated speed rpm	: 794
Tolerance			Tolerance 1/min	: + 4
cm ³ /1000 strokes	: 4.5		rack travel mm	: -10.10
Check tolerance				
cm ³ /1000S.	: 7.5		rack travel mm	: -13.65
			Tolerance mm	: + 0.55
			Rated speed rpm	: 900

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 760		rack travel mm	: -13.65
guide sleeve			Tolerance mm	: + 0.55
travel mm	: 4.31		Rated speed rpm	: 900
Tolerance mm	: + 0.10			
Rated speed rpm	: 815		rack travel mm	: -13.65
guide sleeve			Tolerance mm	: + 0.55
travel mm	: 10.00		Rated speed rpm	: 900
Tolerance mm	: + 0.20			
Rated speed rpm	: 870		rack travel mm	: -13.65
guide sleeve			Tolerance mm	: + 0.55
travel mm	: 11.50		Rated speed rpm	: 900
Tolerance mm	: + 0.50			

ASSEMBLY GOVERNOR SETTING

Rated speed rpm	: 750		rack travel mm	: -1.00
rack travel mm	: -1.00			
Rated speed rpm	: 792		rack travel mm	: -10.10
Tolerance 1/min	: + 4			
rack travel mm	: -13.65		rack travel mm	: -13.65
			Tolerance mm	: + 0.55
			Rated speed rpm	: 900

Rated speed rpm	: 751		rack travel mm	: -1.00
rack travel mm	: -1.00			
Rated speed rpm	: 793		rack travel mm	: -6.65
Tolerance 1/min	: + 4		Tolerance mm	: + 0.15
rack travel mm	: -10.10			

LOW IDLE

Testing:

Rated speed rpm	: 275
rack travel mm	: -6.65
Tolerance mm	: + 0.15

TORQUE CONTROL

Rated speed rpm : 700

LOW IDLE

Rated speed rpm : 275

Rack travel in mm : -6.65

Tolerance mm : + 0.15

Del. quantity

cm³/1000 strokes : 15.5

Tolerance

cm³/1000 strokes : + 2.5

Check tolerance

cm³/1000S. : + 5.0

Speed

Tolerance

cm³/1000 strokes : 4.5

Check tolerance

cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.10.93
Test oil : ISO 4113

Combination No. : 0 402 046 838

Injection pump
Pump designation : PES6P100A320LS3306
EP type number : 0 412 006 703

Governor
Governor design. : RQV350...1200PA1042K
Governor no. : 0 421 815 320

Cust. part No. : 1819913C91

Customer spec. information
Customer : NAVISTAR
Motor : DTA-466
Power KW : 172.0

TEST BENCH REQUIREMENTS

Inlet Line : 2.4

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.8

Overflow quantity
min. l/h : 250
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 23.0
Tolerance bar : + 1.0

Prestroke mm : 3.00
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 15.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

Start of delivery blocking

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 800

Rack travel in mm : 13.55
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 148.5
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000s. : + 3.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000s. : 12.0

 Rated speed rpm : 350
 Rack travel in mm : 6.10
 Tolerance mm : + 0.10
 Del. quantity
 cm³/1000 strokes : 15.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000s. : + 4.5
 Spread
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000s. : 6.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1440
 Rack travel in mm : 10.00
 Tolerance mm : + 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 800
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 148.5

Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000s. : + 3.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000s. : 12.0

CONTROL LEVER

control lever
 position degree : 66.0
 tolerance degree : + 4.0
 control lever
 position degree : 120.0
 tolerance degree : + 4.0
 RATED SPEED
 rack travel mm : 13.90
 Rated speed rpm : 1265
 Tolerance 1/min. : + 15
 rack travel mm : 4.00
 Rated speed rpm : 1445
 Tolerance 1/min. : + 5
 rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1550

LOW IDLE

control lever
 position degree : 78.0
 tolerance degree : + 4.0
 control lever
 position degree : 21.0
 tolerance degree : + 4.0
 Setting point w/out bumper spring
 Rated speed rpm : 275
 CRT mm min. : > 7.60
 Testing:
 Rated speed rpm : 350
 rack travel mm : 6.10
 Tolerance mm : + 0.10

Rated speed rpm : 435

TORQUE CONTROL

Rated speed rpm : 800
rack travel mm : 13.55
Tolerance mm : + - 0.05

Rated speed rpm : 1200
rack travel mm : 15.00
Tolerance mm : + - 0.10

Rated speed rpm : 600
rack travel mm : 12.80
Tolerance mm : + - 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1200
Pressure hPa : 1200
rack travel mm : 14.70
Tolerance mm : + - 0.10

Rated speed rpm : 1200
Pressure hPa : -
rack travel mm : 9.60
Tolerance mm : + - 0.20

MEASUREMENT

Rated speed rpm : 1200
Pressure hPa : 730
rack travel mm : 13.40
Tolerance mm : + - 0.20

Pressure hPa : 300
rack travel mm : 10.75
Tolerance mm : + - 0.05

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 280

Check speed 1/min : > 80
Check speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -
Rated speed rpm : 1200
Del. quantity cm³/1000 strokes : 180.0
Tolerance cm³/1000 strokes : + - 2.0
Check tolerance cm³/1000S. : + - 4.0
Spred Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

rack travel mm : 12.80
Tolerance mm : + - 0.20

Aneroid pressure

hPa : -
Rated speed rpm : 900
Del. quantity cm³/1000 strokes : 71.0
Tolerance cm³/1000 strokes : + - 2.0
Check tolerance cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + - 0.50
Del. quantity cm³/1000 strokes : 140.0
Tolerance cm³/1000 strokes : + - 20.0
Check tolerance cm³/1000S. : + - 25.0

LOW IDLE

Rated speed rpm : 350

Rack travel in mm : 6.10
Tolerance mm : + - 0.10
Del. quantity cm³/1000 strokes : 15.0
Tolerance cm³/1000 strokes : + - 2.0
Check tolerance cm³/1000S. : + - 4.5

Spred
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.06.94
Test oil : ISO 4113

Combination No. : 0 402 046 847

Injection pump
Pump designation : PES6P120A720RS3316
EP type number : 0 412 026 761

Governor
Governor design. : RQV300...1200PA1045
Governor no. : 0 421 814 043

Cust. part No. :

Customer-spec. information
Customer : IVECO-AIFO
Motor : 8361 SRM 37
Power KW : 272.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 300

Rack travel in mm : 3.30
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 26.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000s. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000s. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1360

Rack travel in mm : 12.90
Tolerance mm : + 1.30

CONTROL LEVER

control lever
position degree : 115.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 12.90
Rated speed rpm : 1245
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1390
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 61.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 100

CRT mm min. : > 4.70

Testing:

Rated speed rpm : 300
rack travel mm : 3.30
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 385
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 750
rack travel mm : 14.00
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 13.95
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.50
Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 320
rack travel mm : 10.20
Tolerance mm : + 0.20

Pressure hPa : 440
rack travel mm : 12.65
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 269.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 152.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 305.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 3.30
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.09.97
Test oil : ISO 4113

Combination No. : 0 402 046 880

Injection pump
Pump designation : FES6P1208320RS3377
EP type number : 0 412 026 796

Governor
Governor design. : RQ750PA1304
Governor no. : 0 421 801 811

Cust. part No. :

Customer spec. information
Customer : PERKINS
Motor : EAGLE2006TWG2
Power KW : 287.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 115
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 2.80
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 4- 2- 6- 3-
: 5

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.90
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 272.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
 $\text{cm}^3/1000\text{s.}$: \pm 4.0
 Spred
 Tolerance
 $\text{cm}^3/1000 \text{ strokes}$: 5.0
 Check tolerance
 $\text{cm}^3/1000\text{s.}$: 9.0

Rack travel in mm : 4.30
 Tolerance mm : \pm 0.20
 Del. quantity
 $\text{cm}^3/1000 \text{ strokes}$: 30.0
 Tolerance
 $\text{cm}^3/1000 \text{ strokes}$: \pm 4.0
 Check tolerance
 $\text{cm}^3/1000\text{s.}$: \pm 6.0
 Spred
 Tolerance
 $\text{cm}^3/1000 \text{ strokes}$: 8.0
 Check tolerance
 $\text{cm}^3/1000\text{s.}$: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 763
 guide sleeve
 travel mm : 4.57
 Tolerance mm : \pm 0.15
 Rated speed rpm : 790
 guide sleeve
 travel mm : 3.50
 Tolerance mm : \pm 0.25
 Rated speed rpm : 809
 guide sleeve
 travel mm : 12.00
 Tolerance mm : \pm 0.25
 Rated speed rpm : 860
 guide sleeve
 travel mm : 13.50
 Tolerance mm : \pm 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure
 hPa : -
 Del. quantity
 $\text{cm}^3/1000 \text{ strokes}$: 272.0
 Tolerance
 $\text{cm}^3/1000 \text{ strokes}$: \pm 1.0
 Check tolerance
 $\text{cm}^3/1000\text{s.}$: \pm 4.0
 Spred
 Tolerance
 $\text{cm}^3/1000 \text{ strokes}$: 5.0
 Check tolerance
 $\text{cm}^3/1000\text{s.}$: 9.0

CONTROL LEVER

control lever
 position degree : 34.0
 tolerance degree : \pm 4.0
 control lever
 position degree : 94.0
 tolerance degree : \pm 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 765
 rack travel mm : 11.90
 Rated speed rpm : 785
 Tolerance 1/min : \pm 5
 rack travel mm : 4.00
 rack travel mm : 0.50
 Tolerance mm : \pm 0.50
 Rated speed rpm : 900
 Rated speed rpm : 766
 rack travel mm : 11.90
 Rated speed rpm : 786
 Tolerance 1/min : \pm 5
 rack travel mm : 4.00
 rack travel mm : 0.50
 Tolerance mm : \pm 0.50
 Rated speed rpm : 900
 Rated speed rpm : 767
 rack travel mm : 11.90
 Rated speed rpm : 787
 Tolerance 1/min : \pm 5
 rack travel mm : 4.00

rack travel mm	:	0.50	Tolerance
Tolerance mm	:	+ - 0.50	cm ³ /1000 strokes : + - 25.0
Rated speed rpm	:	900	Check tolerance
			cm ³ /1000S. : + - 29.0

Rated speed rpm	:	768
rack travel mm	:	11.90

Rated speed rpm	:	788
Tolerance 1/min	:	+ - 5
rack travel mm	:	4.00

rack travel mm	:	0.50
Tolerance mm	:	+ - 0.50
Rated speed rpm	:	900

Rated speed rpm	:	769
rack travel mm	:	11.90

Rated speed rpm	:	789
Tolerance 1/min	:	+ - 5
rack travel mm	:	4.00

rack travel mm	:	0.50
Tolerance mm	:	+ - 0.50
Rated speed rpm	:	900

Rated speed rpm	:	770
rack travel mm	:	11.90

Rated speed rpm	:	790
Tolerance 1/min	:	+ - 5
rack travel mm	:	4.00

rack travel mm	:	0.50
Tolerance mm	:	+ - 0.50
Rated speed rpm	:	900

TORQUE CONTROL

Rated speed rpm	:	700
rack travel mm	:	12.90
Tolerance mm	:	+ - 0.05

STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	17.90
Tolerance mm	:	+ - 0.30
Del. quantity		
cm ³ /1000 strokes	:	260.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.09.95
Test oil : ISO 4113

Combination No. : 0 402 076 750

Injection pump
Pump designation : PES6P120A720RS3311
EP type number : 0 412 026 760

Governor
Governor design. : RSV400...1050POA602
Governor no. : 0 421 833 483

Cust. part No. :

Customer-spec. information
Customer : FNH-GEOTECH
Motor : P396
Power KW : 179.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 100
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.45
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 158.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 400

Rack travel in mm : 5.20

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 26.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3

Rated speed rpm : 800

Rack travel in mm : 0.50

Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 4.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 158.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever

position degree : 96.0

tolerance degree : + 4.0

RATED SPEED

rack travel mm : 0.85

Tolerance mm : + 0.55

Rated speed rpm : 1320

rack travel mm : 4.00

Rated speed rpm : 1160

Tolerance 1/min : + 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1093

rack travel mm : 10.45

Rated speed rpm : 1153

Tolerance 1/min : + 5

rack travel mm : 4.00

rack travel mm : 0.85

Tolerance mm : + 0.55

Rated speed rpm : 1320

Rated speed rpm : 1094

rack travel mm : 10.45

Rated speed rpm : 1154

Tolerance 1/min : + 5

rack travel mm : 4.00

rack travel mm : 0.85

Tolerance mm : + 0.55

Rated speed rpm : 1320

Rated speed rpm : 1095

rack travel mm : 10.45

Rated speed rpm : 1155

Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1320

Rated speed rpm : 1096
rack travel mm : 10.45

Rated speed rpm : 1156
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1320

Rated speed rpm : 1097
rack travel mm : 10.45

Rated speed rpm : 1157
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1320

Rated speed rpm : 1098
rack travel mm : 10.45

Rated speed rpm : 1158
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1320

LOW IDLE

control lever position degree : 73.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 4.70
Tolerance mm : + 0.10

Testing:

Rated speed rpm : 400

rack travel mm : 5.20
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 530
Tolerance 1/min : + 20

TORQUE CONTROL
Rated speed rpm : 1050
rack travel mm : 11.45
Tolerance mm : + 0.05

Rated speed rpm : 750
rack travel mm : 12.50
Tolerance mm : + 0.10

Rated speed rpm : 935
rack travel mm : 12.00
Tolerance mm : + 0.10

Rated speed rpm : 700
rack travel mm : 12.50
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.50
Tolerance mm : + 0.10

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.40
Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 950
rack travel mm : 12.25
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 194.0

Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

rack travel mm : 12.00
Tolerance mm : + 0.10

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 127.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm³/1000 strokes : 195.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 400
Rack travel in mm : 5.20
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.07.95
Test oil : ISO 4113

Combination No. : 0 402 076 751

Injection pump
Pump designation : PES6P120A720RS3311
EP type number : 0 412 026 760

Governor
Governor design. : RSV400...1050POA603
Governor no. : 0 421 833 484

Cust. part No. :

Customer-spec. information
Customer : FNH-GEO TECH
Motor : P396
Power KW : 157.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 100
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 089
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 5- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 10.35

Tolerance mm : + 0.05
 Det. quantity cm³/1000 strokes : 132.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 Rated speed rpm : 400
 Rack travel in mm : 4.50
 Tolerance mm : + 0.10
 Det. quantity cm³/1000 strokes : 18.0
 Tolerance cm³/1000 strokes : + 3.0
 Check tolerance cm³/1000S. : + 6.0
 Spread
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree : - 3
 Rated speed rpm : 800

Rack travel in mm : 0.50
 Tolerance mm : + 0.20

governor spring pre-tension
 click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure hPa : 1500
 Det. quantity cm³/1000 strokes : 132.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

CONTROL LEVER

control lever position degree : 101.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1320

rack travel mm : 4.00
 Rated speed rpm : 1160
 Tolerance 1/min : + 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1093
 rack travel mm : 9.35

Rated speed rpm : 1153
 Tolerance 1/min : + 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1320

Rated speed rpm : 1094
 rack travel mm : 9.35

Rated speed rpm : 1154
 Tolerance 1/min : + 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1320

Rated speed rpm : 1095

rack travel mm : 9.35

Rated speed rpm : 1155
Tolerance 1/min : + - 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + - 0.55
Rated speed rpm : 1320

Rated speed rpm : 1096
rack travel mm : 9.35

Rated speed rpm : 1156
Tolerance 1/min : + - 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + - 0.55
Rated speed rpm : 1320

Rated speed rpm : 1097
rack travel mm : 9.35

Rated speed rpm : 1157
Tolerance 1/min : + - 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + - 0.55
Rated speed rpm : 1320

Rated speed rpm : 1098
rack travel mm : 9.35

Rated speed rpm : 1158
Tolerance 1/min : + - 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + - 0.55
Rated speed rpm : 1320

LOW IDLE

control lever
position degree : 79.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.00
Tolerance mm : + - 0.10

Testing:

Rated speed rpm : 400
rack travel mm : 4.50
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 530
Tolerance 1/min : + - 20

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 10.35
Tolerance mm : + - 0.05

Rated speed rpm : 750
rack travel mm : 11.20
Tolerance mm : + - 0.10

Rated speed rpm : 910
rack travel mm : 11.00
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.20
Tolerance mm : + - 0.10

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.00
Tolerance mm : + - 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 10.85
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 163.0

Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

rack travel mm : 11.00
Tolerance mm : + 0.10

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 115.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 400
Rack travel in mm : 4.50
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS**Note remarks**

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.11.97
Test oil : ISO 4113

Combination No. : 0 402 076 758

Injection pump
Pump designation : PES6P120A720RS3322
EP type number : 0 412 026 764

Governor
Governor design. : RSV650...1250P8A566
Governor no. : 0 421 833 415

Cust. part No. : 87801599

Customer-spec. information
Customer : FNH-GEOTECH
Power KW : 164.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.50

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.05
Tolerance mm : + 0.05

Del. quantity cm³/1000 strokes : 131.0

Tolerance cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000s. : + - 6.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000s. : 9.0

Rated speed rpm : 650

Rack travel in mm : 4.40
Tolerance mm : + - 0.10

Del. quantity
cm³/1000 strokes : 19.0
Tolerance

cm³/1000 strokes : + - 3.0
Check tolerance

cm³/1000s. : + - 6.0
Spread

Tolerance
cm³/1000 strokes : 8.0
Check tolerance

cm³/1000s. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + - 0.20

governor spring
pre-tension
click setting x : 1.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 131.0

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000s. : + - 6.0

Spred
Tolerance

cm³/1000 strokes : 5.0
Check tolerance

cm³/1000s. : 9.0

CONTROL LEVER

control lever
position degree : 112.0
tolerance degree : + - 4.0

RATED SPEED

Rated speed rpm : 1330
Tolerance 1/min : + - 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1293
rack travel mm : 9.05

Rated speed rpm : 1325
Tolerance 1/min : + - 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + - 0.55
Rated speed rpm : 1500

Rated speed rpm : 1294
rack travel mm : 9.05

Rated speed rpm : 1326
Tolerance 1/min : + - 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + - 0.55
Rated speed rpm : 1500

Rated speed rpm : 1295
rack travel mm : 9.05

Rated speed rpm : 1327
Tolerance 1/min : + - 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + - 0.55
Rated speed rpm : 1500

Rated speed rpm : 1296

rack travel mm : 9.05

Rated speed rpm : 1328

Tolerance 1/min : + - 5

rack travel mm : 4.00

rack travel mm : 0.85

Tolerance mm : + - 0.55

Rated speed rpm : 1500

Rated speed rpm : 1297

rack travel mm : 9.05

Rated speed rpm : 1329

Tolerance 1/min : + - 5

rack travel mm : 4.00

rack travel mm : 0.85

Tolerance mm : + - 0.55

Rated speed rpm : 1500

Rated speed rpm : 1298

rack travel mm : 9.05

Rated speed rpm : 1330

Tolerance 1/min : + - 5

rack travel mm : 4.00

rack travel mm : 0.85

Tolerance mm : + - 0.55

Rated speed rpm : 1500

LOW IDLE

control lever

position degree : 85.0

tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 650

rack travel mm : 3.90

Tolerance mm : + - 0.10

Testing:

Rated speed rpm : 650

rack travel mm : 4.40

Tolerance mm : + - 0.10

rack travel mm : 2.00

Rated speed rpm : 770

Tolerance 1/min : + - 50

TORQUE CONTROL

Rated speed rpm : 1250

rack travel mm : 10.05

Tolerance mm : + - 0.05

Rated speed rpm : 900

rack travel mm : 10.60

Tolerance mm : + - 0.10

Rated speed rpm : 1160

rack travel mm : 10.35

Tolerance mm : + - 0.10

Rated speed rpm : 700

rack travel mm : 10.60

Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500

Pressure hPa : 1000

rack travel mm : 10.60

Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : -

rack travel mm : 7.60

Tolerance mm : + - 0.10

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 560

rack travel mm : 9.80

Tolerance mm : + - 0.05

Start interlock

Rated speed rpm : > 100

Check speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1000

Rated speed rpm : 900

Del. quantity

cm³/1000 strokes : 144.5

Tolerance

cm³/1000 strokes : + - 3.0

Check tolerance
cm³/1000S. : + 6.0

rack travel mm : 10.35
Tolerance mm : + 0.10

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 83.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm³/1000 strokes : 215.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 650
Rack travel in mm : 4.40
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.11.97
Test oil : ISO 4113

Combination No. : 0 402 076 759

Injection pump
Pump designation : PES6P120A720RS3322
EP type number : 0 412 026 764

Governor
Governor design. : RSV650...1250P8A567
Governor no. : 0 421 833 416

Cust. part No. : 87801592

Customer-spec. information
Customer : FNH-GEOTECH
Power KW : 201.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery blocking

Check tolerance °NW : + 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.65
Tolerance mm : + 0.10

Del. quantity
 cm³/1000 strokes : 157.5
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 650
 Rack travel in mm : 4.80
 Tolerance mm : + - 0.10
 Del. quantity
 cm³/1000 strokes : 21.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION
 control lever
 position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + - 0.20
 governor spring
 pre-tension
 click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP
 Rated speed rpm : 1250

Aneroid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 157.5
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

CONTROL LEVER

control lever
 position degree : 109.0
 tolerance degree : + - 4.0

RATED SPEED

Rated speed rpm : 1330
 Tolerance 1/min : + - 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1293
 rack travel mm : 10.65

Rated speed rpm : 1325
 Tolerance 1/min : + - 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : + - 0.55
 Rated speed rpm : 1500

Rated speed rpm : 1294
 rack travel mm : 10.65

Rated speed rpm : 1326
 Tolerance 1/min : + - 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : + - 0.55
 Rated speed rpm : 1500

Rated speed rpm : 1295
 rack travel mm : 10.65

Rated speed rpm : 1327
 Tolerance 1/min : + - 5
 rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1500

Rated speed rpm : 1296
rack travel mm : 10.65

Rated speed rpm : 1328
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1500

Rated speed rpm : 1297
rack travel mm : 10.65

Rated speed rpm : 1329
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1500

Rated speed rpm : 1298
rack travel mm : 10.65

Rated speed rpm : 1330
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 79.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 650
rack travel mm : 4.30
Tolerance mm : + 0.10

Testing:

Rated speed rpm : 650
rack travel mm : 4.80
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 770
Tolerance 1/min : + 50

TORQUE CONTROL
Rated speed rpm : 1250
rack travel mm : 11.65
Tolerance mm : + 0.10

Rated speed rpm : 900
rack travel mm : 12.10
Tolerance mm : + 0.10

Rated speed rpm : 700
rack travel mm : 12.15
Tolerance mm : + 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.10
Tolerance mm : + 0.10

Rated speed rpm : 500
Pressure hPa : --
rack travel mm : 7.90
Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 490
rack travel mm : 11.05
Tolerance mm : + 0.05

Start interlock

Rated speed rpm : > 100

Check
speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 176.0

Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

rack travel mm : 12.15
Tolerance mm : + 0.15

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 84.5
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 650
Rack travel in mm : 4.80
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.11.97
Test oil : ISO 4113

Combination No. : 0 402 076 762

Injection pump
Pump designation : PES6P120A72CRS3322
EP type number : 0 412 026 764

Governor
Governor design. : RSV650...1250P8A567
: -1
Governor no. : 0 421 833 422

Cust. part No. : 87801597

Customer-spec. information
Customer : FNH-GEOTECH
Power KW : 179.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 105
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery blocking

Check tolerance °NW : + 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.70
 Tolerance mm : + - 0.05
 Del. quantity cm³/1000 strokes : 137.5
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 6.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 Rated speed rpm : 650
 Rack travel in mm : 4.60
 Tolerance mm : + - 0.10
 Del. quantity cm³/1000 strokes : 21.0
 Tolerance cm³/1000 strokes : + - 3.0
 Check tolerance cm³/1000S. : + - 6.0
 Spread
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION
 control lever position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + - 0.20
 governor spring pre-tension click setting x : 3.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
 Aneroid pressure hPa : 1500
 Del. quantity cm³/1000 strokes : 137.5
 Tolerance cm³/1000 strokes : + - 1.0
 Check tolerance cm³/1000S. : + - 6.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

CONTROL LEVER

control lever position degree : 111.0
 tolerance degree : + - 4.0

RATED SPEED

Rated speed rpm : 1330
 Tolerance 1/min : + - 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1293
 rack travel mm : 9.65
 Rated speed rpm : 1325
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 rack travel mm : 0.85
 Tolerance mm : + - 0.55
 Rated speed rpm : 1500

Rated speed rpm : 1294
 rack travel mm : 9.65

Rated speed rpm : 1326
 Tolerance 1/min : + - 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : + - 0.55
 Rated speed rpm : 1500

Rated speed rpm : 1295
 rack travel mm : 9.65

Rated speed rpm : 1327
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1500

Rated speed rpm : 1296
rack travel mm : 9.65

Rated speed rpm : 1328
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1500

Rated speed rpm : 1297
rack travel mm : 9.65

Rated speed rpm : 1329
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1500

Rated speed rpm : 1298
rack travel mm : 9.65

Rated speed rpm : 1330
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1500

LOW IDLE

control lever position degree : 80.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 650
rack travel mm : 4.10
Tolerance mm : + 0.10

Testing:

H12

Rated speed rpm : 650
rack travel mm : 4.60
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 750
Tolerance 1/min : + 50

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 10.70
Tolerance mm : + 0.05

Rated speed rpm : 900
rack travel mm : 11.10
Tolerance mm : + 0.10

Rated speed rpm : 1100
rack travel mm : 10.95
Tolerance mm : + 0.10

Rated speed rpm : 700
rack travel mm : 11.10
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.10
Tolerance mm : + 0.10

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 7.70
Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 630
rack travel mm : 10.75
Tolerance mm : + 0.05

Start interlock

Rated speed rpm : > 100
Check speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1500
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 150.5
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000s. : + - 6.0

Rack travel mm : 10.95
Tolerance mm : + - 0.10

Aneroid pressure

hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 82.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000s. : + - 4.0

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000s. : + - 19.0

LOW IDLE

Rated speed rpm : 650

Rack travel in mm : 4.60
Tolerance mm : + - 0.10

Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000s. : + - 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS**Note remarks**

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.11.97
Test oil : ISO 4113

Combination No. : 0 402 076 768

Injection pump
Pump designation : PES6F120A7Z0RS3322
EP type number : 0 412 026 764

Governor
Governor design. : RSV650...1250P8A567
: -2
Governor no. : 0 421 833 443

Cust. part No. : 87801594

Customer-spec. information
Customer : FNH-GEOTECH
Motor : 7,5L - DI
Power KW : 190.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 11.45
Tolerance mm : + 0.05

Del. quantity cm³/1000 strokes : 153.0

Tolerance cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000s. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000s. : 9.0

Rated speed rpm : 650

Rack travel in mm : 4.80
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 21.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000s. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000s. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200

Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 153.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000s. : + 6.0

Spred

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000s. : 9.0

CONTROL LEVER

control lever
position degree : 109.0
tolerance degree : + 4.0

RATED SPEED

Rated speed rpm : 1300
Tolerance 1/min : + 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1263
rack travel mm : 10.45

Rated speed rpm : 1295
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1500

Rated speed rpm : 1264
rack travel mm : 10.45

Rated speed rpm : 1296
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1500

Rated speed rpm : 1265
rack travel mm : 10.45

Rated speed rpm : 1297
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1500

Rated speed rpm : 1266

rack travel mm	:	10.45	+	Rated speed rpm	:	1200
Rated speed rpm	:	1298	+	rack travel mm	:	11.45
Tolerance 1/min	:	+ 5	+	Tolerance mm	:	+ 0.05
rack travel mm	:	4.00				
rack travel mm	:	0.85	+	Rated speed rpm	:	900
Tolerance mm	:	+ 0.55	+	rack travel mm	:	11.80
Rated speed rpm	:	1500	+	Tolerance mm	:	+ 0.10
Rated speed rpm	:	1267	+	Rated speed rpm	:	1100
rack travel mm	:	10.45	+	rack travel mm	:	11.60
				Tolerance mm	:	+ 0.10
Rated speed rpm	:	1299	+			
Tolerance 1/min	:	+ 5	+	Rated speed rpm	:	700
rack travel mm	:	4.00	+	rack travel mm	:	11.90
			+	Tolerance mm	:	+ 0.10
rack travel mm	:	0.85				
Tolerance mm	:	+ 0.55				
Rated speed rpm	:	1500				
Rated speed rpm	:	1268	+	ANEROID/ALTITUDE		
rack travel mm	:	10.45	+	COMPENSATOR TEST		
Rated speed rpm	:	1300	+	SETTING		
Tolerance 1/min	:	+ 5	+			
rack travel mm	:	4.00	+	Rated speed rpm	:	500
			+	Pressure hPa	:	1000
rack travel mm	:	0.85	+	rack travel mm	:	11.90
Tolerance mm	:	+ 0.55	+	Tolerance mm	:	+ 0.10
Rated speed rpm	:	1500				
				Rated speed rpm	:	500
				Pressure hPa	:	-
				rack travel mm	:	7.90
				Tolerance mm	:	+ 0.10
LOW IDLE						
control lever						
position degree	:	80.0				
tolerance degree	:	+ 4.0				
Setting point w/out bumper spring						
Rated speed rpm	:	650	+	MEASUREMENT		
rack travel mm	:	4.30	+			
Tolerance mm	:	+ 0.10	+	Rated speed rpm	:	500
			+	Pressure hPa	:	595
			+	rack travel mm	:	11.45
			+	Tolerance mm	:	+ 0.05
Testing:						
Rated speed rpm	:	650	+	Start interlock		
rack travel mm	:	4.80	+			
Tolerance mm	:	+ 0.10	+	Rated speed rpm	:	> 100
			+	Check		
			+	speed 1/min	:	> 80
rack travel mm	:	2.00		FUEL DELIVERY CHARACTERISTICS		
Rated speed rpm	:	770				
Tolerance 1/min	:	+ 50		Aneroid pressure		
				hPa	:	1000
				Rated speed rpm	:	900
				Del. quantity		
				cm ³ /1000 strokes	:	170.0
				Tolerance		
				cm ³ /1000 strokes	:	+ 3.0
TORQUE CONTROL						

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	1000
Rated speed rpm	:	900
Del. quantity		
cm ³ /1000 strokes	:	170.0
Tolerance		
cm ³ /1000 strokes	:	+ 3.0

Check tolerance
cm³/1000s. : + 6.0

Rack travel mm : 11.60
Tolerance mm : + 0.10

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 83.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000s. : + 4.0

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 215.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000s. : + 19.0

LOW IDLE

Rated speed rpm : 650

Rack travel in mm : 4.80
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000s. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.11.97
Test oil : ISO 4113

Combination No. : 0 402 076 771

Injection pump
Pump designation : PES6P120A720RS3340
EP type number : 0 412 026 773

Governor
Governor design. : RSV650...1100P8A566
: -1
Governor no. : 0 421 833 452

Cust. part No. : 87801591

Customer-spec. information
Customer : FNH-GEOTECH
Power KW : 201.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery blocking

Check tolerance °NW : + 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm : 12.35

Tolerance mm : + 0.05
 Del. quantity cm³/1000 strokes : 183.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 6.0

Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

Rated speed rpm : 650
 Rack travel in mm : 4.60
 Tolerance mm : + 0.10
 Del. quantity cm³/1000 strokes : 23.0
 Tolerance cm³/1000 strokes : + 3.0
 Check tolerance cm³/1000S. : + 6.0
 Spread
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION
 control lever position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + 0.20
 governor spring pre-tension click setting x : 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1075
 Aneroid pressure hPa : 1600
 Del. quantity cm³/1000 strokes : 183.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 6.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

CONTROL LEVER

control lever position degree : 97.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 4.00
 Rated speed rpm : 1165
 Tolerance 1/min : + 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1121
 rack travel mm : 11.30
 Rated speed rpm : 1152
 Tolerance 1/min : + 5
 rack travel mm : 4.00
 rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1350

Rated speed rpm : 1122
 rack travel mm : 11.30
 Rated speed rpm : 1153
 Tolerance 1/min : + 5
 rack travel mm : 4.00
 rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1350

Rated speed rpm : 1123
 rack travel mm : 11.30
 Rated speed rpm : 1154
 Tolerance 1/min : + 5

rack travel mm : 4.00

rack travel mm : 0.85

Tolerance mm : + 0.55

Rated speed rpm : 1350

Rated speed rpm : 1124

rack travel mm : 11.30

Rated speed rpm : 1155

Tolerance 1/min : + 5

rack travel mm : 4.00

rack travel mm : 0.85

Tolerance mm : + 0.55

Rated speed rpm : 1350

Rated speed rpm : 1125

rack travel mm : 11.30

Rated speed rpm : 1156

Tolerance 1/min : + 5

rack travel mm : 4.00

rack travel mm : 0.85

Tolerance mm : + 0.55

Rated speed rpm : 1350

Rated speed rpm : 1126

rack travel mm : 11.30

Rated speed rpm : 1157

Tolerance 1/min : + 5

rack travel mm : 4.00

rack travel mm : 0.85

Tolerance mm : + 0.55

Rated speed rpm : 1350

LOW IDLE

control lever

position degree : 78.0

tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 650

rack travel mm : 4.10

Tolerance mm : + 0.10

Testing:

Rated speed rpm : 650

rack travel mm : 4.60

Tolerance mm : + 0.10

rack travel mm : 2.00

Rated speed rpm : 750

TORQUE CONTROL

Rated speed rpm : 1075

rack travel mm : 12.35

Tolerance mm : + 0.05

Rated speed rpm : 800

rack travel mm : 13.15

Tolerance mm : + 0.10

Rated speed rpm : 700

rack travel mm : 13.20

Tolerance mm : + 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500

Pressure hPa : 1600

rack travel mm : 13.20

Tolerance mm : + 0.15

Rated speed rpm : 500

Pressure hPa : -

rack travel mm : 7.60

Tolerance mm : + 0.15

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 1060

rack travel mm : 11.80

Tolerance mm : + 0.10

Start interlock

Rated speed rpm : > 100

Check speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1600

Rated speed rpm : 800

Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0

Rack travel mm : 13.20
Tolerance mm : + - 0.15

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 83.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Rack travel mm : 20.50
Tolerance mm : + - 0.50
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 650
Rack travel in mm : 4.60
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.11.97
Test oil : ISO 4113

Combination No. : 0 402 076 787

Injection pump
Pump designation : PES6P120A720RS3340
IP type number : 0 412 026 773

Governor
Governor design. : RSV400...1050POA602
Governor no. : 0 421 833 483

Cust. part No. : 87801595

Customer-spec. information
Customer : FNH-GEOTECH
Motor : EP040B
Power KW : 176.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 100
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : - 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery blocking

Check tolerance °NW : + 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.25
Tolerance mm : + 0.05

Det. quantity cm³/1000 strokes : 158.0

Tolerance cm³/1000 strokes : + 1.0

Check tolerance cm³/1000S. : + 6.0

Spred

Tolerance cm³/1000 strokes : 5.0

Check tolerance cm³/1000S. : 9.0

Rated speed rpm : 400

Rack travel in mm : 5.00
Tolerance mm : + 0.10

Det. quantity cm³/1000 strokes : 26.0
Tolerance cm³/1000 strokes : + 3.0

Check tolerance cm³/1000S. : + 6.0

Spred
Tolerance cm³/1000 strokes : 8.0

Check tolerance cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring pre-tension
click setting x : 4.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure hPa : 1600

Det. quantity cm³/1000 strokes : 158.0

Tolerance cm³/1000 strokes : + 1.0

Check tolerance cm³/1000S. : + 6.0

Spred

Tolerance cm³/1000 strokes : 5.0

Check tolerance cm³/1000S. : 9.0

CONTROL LEVER

control lever position degree : 94.0

RATED SPEED

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1320

rack travel mm : 4.00
Rated speed rpm : 1165
Tolerance 1/min : + 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1093
rack travel mm : 10.20

Rated speed rpm : 1148
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1320

Rated speed rpm : 1094
rack travel mm : 10.20

Rated speed rpm : 1149
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1320

		Tolerance mm	: + - 0.10
Testing:			
Rated speed rpm	:	400	
rack travel mm	:	5.00	
Tolerance 1/min	: + -	0.10	
rack travel mm	:	2.00	
rack travel mm	:	535	
Tolerance mm	: + -	50	
Rated speed rpm	:		
Rated speed rpm	:	1095	
rack travel mm	:	10.20	
Rated speed rpm	:	1150	
Tolerance 1/min	: + -	5	
rack travel mm	:	4.00	
rack travel mm	:	0.85	
Tolerance mm	: + -	0.55	
Rated speed rpm	:	1320	
Rated speed rpm	:	1096	
rack travel mm	:	10.20	
Rated speed rpm	:	1151	
Tolerance 1/min	: + -	5	
rack travel mm	:	4.00	
rack travel mm	:	0.85	
Tolerance mm	: + -	0.55	
Rated speed rpm	:	1320	
Rated speed rpm	:	1097	
rack travel mm	:	10.20	
Rated speed rpm	:	1152	
Tolerance 1/min	: + -	5	
rack travel mm	:	4.00	
rack travel mm	:	0.85	
Tolerance mm	: + -	0.55	
Rated speed rpm	:	1320	
Rated speed rpm	:	1098	
rack travel mm	:	10.20	
Rated speed rpm	:	1153	
Tolerance 1/min	: + -	5	
rack travel mm	:	4.00	
rack travel mm	:	0.85	
Tolerance mm	: + -	0.55	
Rated speed rpm	:	1320	

LOW IDLE

control lever
position degree : 73.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 4.50

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.25
Tolerance mm : + - 0.05

Rated speed rpm : 700
rack travel mm : 12.40
Tolerance mm : + - 0.05

Rated speed rpm : 600
rack travel mm : 12.50
Tolerance mm : + - 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1600
rack travel mm : 12.50
Tolerance mm : + - 0.10

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 8.10
Tolerance mm : + - 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 980
rack travel mm : 11.40
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 700

Del. quantity
cm³/1000 strokes : 196.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Rack travel mm : 12.50
Tolerance mm : + 0.15

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 94.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 400
Rack travel in mm : 5.00
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.11.97
Test oil : ISO 4113

Combination No. : 0 402 076 788

Injection pump
Pump designation : PES6P120A720RS3340
EP type number : 0 412 026 773

Governor
Governor design. : RSV400...1050POA603
Governor no. : 0 421 833 484

Cust. part No. : 87801600

Customer-spec. information
Customer : FMT-GEOTECH
Motor : EP 040 B
Power KW : 154.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 100
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery blocking

Check tolerance °NW : + 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 10.45
Tolerance : + - 0.05

Del. quantity
cm³/1000 strokes : 136.0

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 6.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 400

Rack travel in mm : 4.50
Tolerance mm : + - 0.10

Del. quantity
cm³/1000 strokes : 23.0

Tolerance
cm³/1000 strokes : + - 3.0

Check tolerance
cm³/1000S. : + - 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + - 0.20

governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 136.0

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 6.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 76.0
tolerance degree : + - 4.0

RATED SPEED

rack travel mm : 0.85
Tolerance mm : + - 0.55
Rated speed rpm : 1320

rack travel mm : 4.00
Rated speed rpm : 1155
Tolerance 1/min : + - 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1093
rack travel mm : 9.45

Rated speed rpm : 1153
Tolerance 1/min : + - 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + - 0.55
Rated speed rpm : 1320

Rated speed rpm : 1094
rack travel mm : 9.45

Rated speed rpm : 1154
Tolerance 1/min : + - 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + - 0.55

Rated speed rpm : 1320

Rated speed rpm : 1095
rack travel mm : 9.45

Rated speed rpm : 1155
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1320

Rated speed rpm : 1096
rack travel mm : 9.45

Rated speed rpm : 1156
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1320

Rated speed rpm : 1097
rack travel mm : 9.45

Rated speed rpm : 1157
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1320

Rated speed rpm : 1098
rack travel mm : 9.45

Rated speed rpm : 1158
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1320

LOW IDLE

control lever
position degree : 97.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.00
Tolerance mm : + 0.10

Testing:

Rated speed rpm : 400
rack travel mm : 4.50
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 535
Tolerance 1/min : + 50

TORQUE CONTROL
Rated speed rpm : 1050
rack travel mm : 10.45
Tolerance mm : + 0.05

Rated speed rpm : 750
rack travel mm : 11.30
Tolerance mm : + 0.10

Rated speed rpm : 600
rack travel mm : 11.35
Tolerance mm : + 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.30
Tolerance mm : + 0.10

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 8.10
Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 10.80
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500

Rated speed rpm : 750
Del. quantity cm³/1000 strokes : 167.0
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0

rack travel mm : 11.35
Tolerance mm : + - 0.15

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 92.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Check hydraulic start locking and unlocking device with 500...1000 hPa.

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + - 0.50
Del. quantity cm³/1000 strokes : 150.0
Tolerance cm³/1000 strokes : + - 15.0
Check tolerance cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 400
Rack travel in mm : 4.50
Tolerance mm : + - 0.10
Del. quantity cm³/1000 strokes : 23.0
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0
Spread
Tolerance cm³/1000 strokes : 8.0

Check tolerance cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 26.11.97
Test oil : ISO 4113

Combination No. : 0 402 076 804

Injection pump
Pump designation : PES6P120A720RS3340
EP type number : 0 412 026 773

Governor
Governor design. : RSV650...1100P8A566
: -2
Governor no. : 0 421 833 559

Cust. part No. : 87801598

Customer-spec. information

Customer : NH
Power KW : 162.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery blocking

Check tolerance °NW : + 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1025

Rack travel in mm : 10.80

Tolerance mm	: + - 0.05
Del. quantity cm ³ /1000 strokes	: 143.5
Tolerance cm ³ /1000 strokes	: + - 1.0
Check tolerance cm ³ /1000S.	: + - 6.0
Speed	
Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0
Rated speed rpm	: 650
Rack travel in mm	: 4.70
Tolerance mm	: + - 0.10
Del. quantity cm ³ /1000 strokes	: 23.0
Tolerance cm ³ /1000 strokes	: + - 3.0
Check tolerance cm ³ /1000S.	: + - 6.0
Speed	
Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION	
control lever position degree	: - 3
Rated speed rpm	: 800
Rack travel in mm	: 0.50
Tolerance mm	: + - 0.20
governor spring pre-tension	
click setting x	: 3.75

FULL LOAD DELIVERY AT FULL LOAD STOP	
--------------------------------------	--

Rated speed rpm	: 1025
Aneroid pressure hPa	: 1600
Del. quantity cm ³ /1000 strokes	: 143.5
Tolerance cm ³ /1000 strokes	: + - 1.0
Check tolerance cm ³ /1000S.	: + - 6.0
Speed	
Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0

CONTROL LEVER	
control lever position degree	: 95.0
tolerance degree	: + - 4.0

RATED SPEED	
rack travel mm	: 4.00
Rated speed rpm	: 1105
Tolerance 1/min	: + - 15

ASSEMBLY GOVERNOR SETTING	
Rated speed rpm	: 1072
rack travel mm	: 9.80
Rated speed rpm	: 1100
Tolerance 1/min	: + - 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: + - 0.55
Rated speed rpm	: 1350

Rated speed rpm	: 1073
rack travel mm	: 9.80
Rated speed rpm	: 1101
Tolerance 1/min	: + - 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: + - 0.55
Rated speed rpm	: 1350

Rated speed rpm	: 1074
rack travel mm	: 9.80
Rated speed rpm	: 1102
Tolerance 1/min	: + - 5

rack travel mm : 4.00
rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1350

Rated speed rpm : 1075
rack travel mm : 9.80
Rated speed rpm : 1103
Tolerance 1/min : \pm 5
rack travel mm : 4.00
rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1350

Rated speed rpm : 1076
rack travel mm : 9.80
Rated speed rpm : 1104
Tolerance 1/min : \pm 5
rack travel mm : 4.00
rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1350

Rated speed rpm : 1077
rack travel mm : 9.80
Rated speed rpm : 1105
Tolerance 1/min : \pm 5
rack travel mm : 4.00
rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 76.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 650
rack travel mm : 4.20
Tolerance mm : \pm 0.10

Testing:

Rated speed rpm : 650
rack travel mm : 4.70

Tolerance mm : \pm 0.10
rack travel mm : 2.00
Rated speed rpm : 760

TORQUE CONTROL
Rated speed rpm : 1025
rack travel mm : 10.80
Tolerance mm : \pm 0.05
Rated speed rpm : 800
rack travel mm : 11.55
Tolerance mm : \pm 0.10
Rated speed rpm : 700
rack travel mm : 11.60
Tolerance mm : \pm 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1600
rack travel mm : 11.55
Tolerance mm : \pm 0.15

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 7.60
Tolerance mm : \pm 0.15

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 840
rack travel mm : 10.70
Tolerance mm : \pm 0.10

Start interlock

Rated speed rpm : > 100
Check
speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 800

Del. quantity
cm³/1000 strokes : 167.5
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0

rack travel mm : 11.60
Tolerance mm : + - 0.15

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 80.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + - 0.50
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 650
Rack travel in mm : 4.70
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.05.97
Test oil : ISO 4113

Combination No. : 0 402 076 807

Injection pump
Pump designation : PES6P120A720RS3378
EP type number : 0 412 026 799

Governor
Governor design. : RSV450...1050P5A647
Governor no. : 0 421 833 564

Cust. part No. :

Customer-spec. information
Customer : IVECO-FIAT
Motor : 8365.26.532
Power KW : 117.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 034

Inlet press. bar : 2.5

Overflow quantity
min. l/h : 260
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 8.55
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 115.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000s. : + 4.0

Spred

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000s. : 9.0

Rated speed rpm : 450

Rack travel in mm : 4.60

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000s. : + 6.0

Spred

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000s. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3

Rated speed rpm : 800

Rack travel in mm : 0.50

Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 115.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000s. : + 4.0

Spred

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000s. : 9.0

CONTROL LEVER

control lever
position degree : 113.0

RATED SPEED

rack travel mm : 7.40

Rated speed rpm : 1095

Tolerance 1/min : + 5

Check
speed 1/min : + 10

rack travel mm : 4.00

Rated speed rpm : 1125

Tolerance 1/min : + 15

rack travel mm : 0.85

Tolerance mm : + 0.55

Rated speed rpm : 1400

rack travel mm : 4.00

Rated speed rpm : 1130

Tolerance 1/min : + 15

Check
speed 1/min : + 20

LOW IDLE

control lever
position degree : 91.0

Setting point w/out bumper spring

Rated speed rpm : 450

rack travel mm : 4.10

Tolerance mm : + 0.10

Testing:

Rated speed rpm : 450

rack travel mm : 4.60

Tolerance mm : + 0.10

rack travel mm : 2.00

Rated speed rpm : 570

Tolerance 1/min : + 50

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 8.55
Tolerance mm : + 0.05

Rated speed rpm : 700
rack travel mm : 8.60
Tolerance mm : + 0.10

Rated speed rpm : 320
rack travel mm : 9.10
Tolerance mm : + 0.20

Rated speed rpm : 450
rack travel mm : 8.60
Tolerance mm : + 0.20

Rack travel in mm : 4.60
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 106.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

rack travel mm : 9.10
Tolerance mm : + 0.20

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.50
Tolerance mm : + 0.50
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 450

BOSCH INJ. PUMP TEST SPECIFICATIONS**Note remarks**

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 26.11.97
Test oil : ISO 4113

Combination No. : 0 402 076 810

Injection pump
Pump designation : PES6P120A720RS3340
EP type number : 0 412 026 773

Governor
Governor design. : RSV650...1050P8A566
: -4
Governor no. : 0 421 833 583

Cust. part No. : 87801590

Customer-spec. information

Customer : NH
Motor : EP 040 B
Power KW : 198.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance
Check tolerance °NW : + 0.50

Start of delivery blocking

Check tolerance °NW : + 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1025

Rack travel in mm : 12.35

Tolerance mm	: + - 0.05
Del. quantity cm ³ /1000 strokes	: 183.0
Tolerance cm ³ /1000 strokes	: + - 1.0
Check tolerance cm ³ /1000S.	: + - 6.0
Spread	
Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0
Rated speed rpm	: 650
Rack travel in mm	: 4.60
Tolerance mm	: + - 0.10
Del. quantity cm ³ /1000 strokes	: 23.0
Tolerance cm ³ /1000 strokes	: + - 3.0
Check tolerance cm ³ /1000S.	: + - 6.0
Spread	
Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	
GUIDE SLEEVE POSITION	
control lever position degree	: - 3
Rated speed rpm	: 800
Rack travel in mm	: 0.50
Tolerance mm	: + - 0.20
governor spring pre-tension	
click setting x	: 2.50
FULL LOAD DELIVERY AT FULL LOAD STOP	

Rated speed rpm	: 1025
Aneroid pressure hPa	: 1600
Del. quantity cm ³ /1000 strokes	: 183.0
Tolerance cm ³ /1000 strokes	: + - 1.0
Check tolerance cm ³ /1000S.	: + - 6.0
Spread	
Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0
CONTROL LEVER	
control lever position degree	: 95.0
ASSEMBLY GOVERNOR SETTING	
Rated speed rpm	: 1067
rack travel mm	: 11.30
Rated speed rpm	: 1097
Tolerance 1/min	: + - 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: + - 0.55
Rated speed rpm	: 1300
Rated speed rpm	: 1068
rack travel mm	: 11.30
Rated speed rpm	: 1098
Tolerance 1/min	: + - 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: + - 0.55
Rated speed rpm	: 1300
Rated speed rpm	: 1069
rack travel mm	: 11.30
Rated speed rpm	: 1099
Tolerance 1/min	: + - 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: + - 0.55
Rated speed rpm	: 1300

Rated speed rpm : 1070
rack travel mm : 11.30

Rated speed rpm : 1100
Tolerance 1/min : + - 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + - 0.55
Rated speed rpm : 1300

Rated speed rpm : 1071
rack travel mm : 11.30

Rated speed rpm : 1101
Tolerance 1/min : + - 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + - 0.55
Rated speed rpm : 1300

Rated speed rpm : 1072
rack travel mm : 11.30

Rated speed rpm : 1102
Tolerance 1/min : + - 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + - 0.55
Rated speed rpm : 1300

LOW IDLE

control lever position degree : 76.0

Setting point w/out bumper spring

Rated speed rpm : 650
rack travel mm : 4.10
Tolerance mm : + - 0.10

Testing:

Rated speed rpm : 650
rack travel mm : 4.60
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 750

TORQUE CONTROL

Rated speed rpm : 1025
rack travel mm : 12.35
Tolerance mm : + - 0.05

Rated speed rpm : 750
rack travel mm : 13.05
Tolerance mm : + - 0.10

Rated speed rpm : 650
rack travel mm : 13.10
Tolerance mm : + - 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1600
rack travel mm : 13.10
Tolerance mm : + - 0.15

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 7.80
Tolerance mm : + - 0.15

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 980
rack travel mm : 11.60
Tolerance mm : + - 0.10

Start interlock

Rated speed rpm : > 100
Check speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1600
Rated speed rpm : 750
Del. quantity cm³/1000 strokes : 210.0
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0

rack travel mm : 13.10
Tolerance mm : + - 0.15

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 86.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + - 0.50
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 650
Rack travel in mm : 4.60
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.11.97
Test oil : ISO 4113

Combination No. : 0 402 076 816

Injection pump
Pump designation : PES6P120A720RS3340
EP type number : 0 412 026 773

Governor
Governor design. : RSV650...1100P8A566
: -5
Governor no. : 0 421 833 601

Cust. part No. : 87801596

Customer-spec. information

Customer : NH
Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 120
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery blocking

Check tolerance °NW : + 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1025

Rack travel in mm : 11.45
Tolerance mm : + - 0.05

Del. quantity
cm³/1000 strokes : 159.0

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 6.0

Spred

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 650

Rack travel in mm : 4.60
Tolerance mm : + - 0.10

Del. quantity
cm³/1000 strokes : 23.0

Tolerance
cm³/1000 strokes : + - 3.0

Check tolerance
cm³/1000S. : + - 6.0

Spred
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + - 0.20

governor spring
pre-tension
click setting x : 3.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1025
Aneroid pressure
hPa : 1600

Del. quantity
cm³/1000 strokes : 159.0

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 6.0

Spred
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 97.0

RATED SPEED

rack travel mm : 4.00
Rated speed rpm : 1100
Tolerance 1/min : + - 15

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1067
rack travel mm : 10.40

Rated speed rpm : 1097
Tolerance 1/min : + - 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + - 0.55
Rated speed rpm : 1250

Rated speed rpm : 1068
rack travel mm : 10.40

Rated speed rpm : 1098
Tolerance 1/min : + - 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + - 0.55
Rated speed rpm : 1250

Rated speed rpm : 1069
rack travel mm : 10.40

Rated speed rpm : 1099
 Tolerance 1/min : + 5
 rack travel mm : 4.00

 rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1250

Rated speed rpm : 1070
 rack travel mm : 10.40

Rated speed rpm : 1100
 Tolerance 1/min : + 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1250

Rated speed rpm : 1071
 rack travel mm : 10.40

Rated speed rpm : 1101
 Tolerance 1/min : + 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1250

Rated speed rpm : 1072
 rack travel mm : 10.40

Rated speed rpm : 1102
 Tolerance 1/min : + 5
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1250

LOW IDLE

control lever position degree : 79.0

Setting point w/out bumper spring

Rated speed rpm : 650
 rack travel mm : 4.10
 Tolerance mm : + 0.10

Testing:

Rated speed rpm : 650
 rack travel mm : 4.60
 Tolerance mm : + 0.10

 rack travel mm : 2.00
 Rated speed rpm : 700

TORQUE CONTROL
 Rated speed rpm : 1025
 rack travel mm : 11.45
 Tolerance mm : + 0.05

Rated speed rpm : 800
 rack travel mm : 12.30
 Tolerance mm : + 0.10

Rated speed rpm : 750
 rack travel mm : 12.35
 Tolerance mm : + 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1600
 rack travel mm : 12.30
 Tolerance mm : + 0.15

Rated speed rpm : 500
 Pressure hPa : -
 rack travel mm : 7.80
 Tolerance mm : + 0.15

MEASUREMENT

Rated speed rpm : 500

 Pressure hPa : 1050
 rack travel mm : 11.50
 Tolerance mm : + 0.10

Start interlock

Rated speed rpm : > 100

 Check speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1600

Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 185.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000s. : + - 6.0

rack travel mm : 12.35
Tolerance mm : + - 0.15

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 86.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000s. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + - 0.50
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000s. : + - 19.0

LOW IDLE

Rated speed rpm : 650
Rack travel in mm : 4.60
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000s. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.03.98
Test oil : ISO 4113

Combination No. : 0 402 086 702

Injection pump
Pump designation : PES6P100B321RS3388
EP type number : 0 412 006 714

Governor
Governor design. : RSV400...1125P0A674
Governor no. : 0 421 833 592

Cust. part No. : 51.11103-7564

Customer spec. information

Customer : MAN
Motor : D0826 LE531
Power KW : 191.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 150
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.30
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 15.50
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

Start of delivery blocking

Tolerance : + 0.10
Check
tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 925

Rack travel in mm : 14.10
Tolerance mm : + - 0.05

Del. quantity
cm³/1000 strokes : 174.0

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 4.0

Spred

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 400
Rack travel in mm : 4.90
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + - 0.20

governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 925
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 174.0

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 4.0

Spred

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.0

CONTROL LEVER

control lever
position degree : 104.0
tolerance degree : + - 4.0

RATED SPEED
rack travel mm : 12.60
Rated speed rpm : 1175
Tolerance 1/min : + - 5

rack travel mm : 4.00
Rated speed rpm : 1265
Tolerance 1/min : + - 15

rack travel mm : 0.85
Tolerance mm : + - 0.55
Rated speed rpm : 1400

rack travel mm : 4.00
Rated speed rpm : 1270
Tolerance 1/min : + - 15

LOW IDLE

control lever
position degree : 80.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 4.40
Tolerance mm : + - 0.10

Testing:

Rated speed rpm : 400
rack travel mm : 4.90
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 500
Tolerance 1/min : + - 30

TORQUE CONTROL

Rated speed rpm : 925
rack travel mm : 14.10
Tolerance mm : + - 0.05

Rated speed rpm : 1125
rack travel mm : 13.60
Tolerance mm : + - 0.05

Rated speed rpm : 700
rack travel mm : 14.15
Tolerance mm : + - 0.10

Rated speed rpm : 1025
rack travel mm : 13.95
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 14.10
Tolerance mm : + - 0.15

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.45
Tolerance mm : + - 0.15

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 150
rack travel mm : 9.75
Tolerance mm : + - 0.05

Pressure hPa : 800
rack travel mm : 13.05
Tolerance mm : + - 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 1125
Del. quantity
cm³/1000 strokes : 161.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
rack travel mm : 14.15
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 187.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 91.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.45
Tolerance mm : + - 0.45
Del. quantity
cm³/1000 strokes : 112.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 400

Rack travel in mm : 4.90
Tolerance mm : + - 0.10

Def. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS**Note remarks**

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.03.98
Test oil : ISO 4113

Combination No. : 0 402 086 704

Injection pump
Pump designation : PES6P100B321RS3388
EP type number : 0 412 006 714

Governor
Governor design. : RSV400...1125POA693
Governor no. : 0 421 833 616

Cust. part No. : 51.11103-7607

Customer-spec. information

Customer : MAN
Motor : D0826 LE531
Power KW : 191.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 150
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.30
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 13.50
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery blocking

Tolerance : + 0.10
Check tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 925

Rack travel in mm : 14.10
Tolerance mm : + - 0.05

Del. quantity
cm³/1000 strokes : 174.0

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 4.0

Spread

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 400

Rack travel in mm : 4.90
Tolerance mm : + - 0.10

Del. quantity
cm³/1000 strokes : 25.0

Tolerance
cm³/1000 strokes : + - 3.0

Check tolerance
cm³/1000S. : + - 6.0

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3

governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 925

Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 174.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

RATED SPEED
rack travel mm : 12.60
Rated speed rpm : 1175
Tolerance 1/min : + - 5

rack travel mm : 0.85
Tolerance mm : + - 0.55
Rated speed rpm : 1400

rack travel mm : 4.00
Rated speed rpm : 1270
Tolerance 1/min : + - 15

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 4.40
Tolerance mm : + - 0.10

Testing:

Rated speed rpm : 400
rack travel mm : 4.90
Tolerance mm : + - 0.10

TORQUE CONTROL
Rated speed rpm : 925
rack travel mm : 14.10
Tolerance mm : + - 0.05

Rated speed rpm : 1125
rack travel mm : 13.60
Tolerance mm : + - 0.05

Rated speed rpm : 700
rack travel mm : 14.15
Tolerance mm : + - 0.10

Rated speed rpm : 1025

rack travel mm : 13.95
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 14.10
Tolerance mm : + 0.15

Rated speed rpm : 500
Pressure hPa : --
rack travel mm : 9.45
Tolerance mm : + 0.15

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 150
rack travel mm : 9.75
Tolerance mm : + 0.05

Pressure hPa : 800
rack travel mm : 13.05
Tolerance mm : + 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 1125
Del. quantity
cm³/1000 strokes : 161.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
rack travel mm : 14.15
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 187.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : --
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 91.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.45
Tolerance mm : + 0.45
Del. quantity
cm³/1000 strokes : 112.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 400

Rack travel in mm : 4.90
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.03.98
Test oil : ISO 4113

Combination No. : 0 402 086 705

Injection pump
Pump designation : PES6P1008321RS3388
EP type number : 0 412 006 714

Governor
Governor design. : RSV400...1125P0A694
Governor no. : 0 421 833 617

Cust. part No. : 51.10100-7377

Customer-spec. information

Customer : MAN
Motor : D0826 LE527
Power KW : 169.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 150
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.30
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 13.50
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery blocking

Tolerance : + 0.10
Check tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 925

Rack travel in mm : 13.90
Tolerance mm : + - 0.05

Det. quantity
cm³/1000 strokes : 169.0

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 4.0

Spread

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 400

Rack travel in mm : 4.80
Tolerance mm : + - 0.10

Det. quantity
cm³/1000 strokes : 25.0

Tolerance
cm³/1000 strokes : + - 3.0

Check tolerance
cm³/1000S. : + - 6.0

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3

governor spring
pre-tension
click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 925

Aneroid pressure
hPa : 1500
Det. quantity
cm³/1000 strokes : 169.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spred
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

RATED SPEED
rack travel mm : 12.10
Rated speed rpm : 1175
Tolerance 1/min : + - 5

rack travel mm : 0.85
Tolerance mm : + - 0.55
Rated speed rpm : 1400

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 4.30
Tolerance mm : + - 0.10

Testing:

Rated speed rpm : 400
rack travel mm : 4.80
Tolerance mm : + - 0.10

TORQUE CONTROL
Rated speed rpm : 925
rack travel mm : 13.90
Tolerance mm : + - 0.05

Rated speed rpm : 1125
rack travel mm : 13.10
Tolerance mm : + - 0.10

Rated speed rpm : 700
rack travel mm : 14.00
Tolerance mm : + - 0.10

Rated speed rpm : 1000
rack travel mm : 13.70
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 14.00
Tolerance mm : + - 0.10

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.50
Tolerance mm : + - 0.20

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 150
rack travel mm : 10.00
Tolerance mm : + - 0.05

Pressure hPa : 800
rack travel mm : 13.20
Tolerance mm : + - 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 1125
Del. quantity
cm³/1000 strokes : 146.5
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
rack travel mm : 14.00
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 180.5
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 90.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.50
Tolerance mm : + - 0.20
Del. quantity
cm³/1000 strokes : 112.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 400
Rack travel in mm : 4.80
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 25.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.09.94
Test oil : ISO 4113

Combination No. : 0 402 638 807

Injection pump
Pump designation : PE8P120A120LS7127
EP type number : 0 412 628 817

Governor
Governor design. : RQ300/1100PA134-3
Governor no. : 0 421 801 655

Cust. part No. :

Customer-spec. information

Customer : SNF
Motor : WD 815.72/73

TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.15
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 8.50
Tolerance mm : + 0.50

Firing order : 1- 5- 4- 8- 6
: - 3- 7- 2

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Del. quantity
cm³/1000 strokes : 134.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000s. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.60
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1156
guide sleeve
travel mm : 6.44
Tolerance mm : + - 0.10

Rated speed rpm : 300
guide sleeve
travel mm : 1.55
Tolerance mm : + - 0.10

Rated speed rpm : 1100
guide sleeve
travel mm : 6.00
Tolerance mm : + - 0.10

Rated speed rpm : 427
guide sleeve
travel mm : 4.88
Tolerance mm : + - 0.10

Rated speed rpm : 510
guide sleeve
travel mm : 6.00
Tolerance mm : + - 0.10

Rated speed rpm : 1310
guide sleeve
travel mm : 11.50
Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 600

Rack travel in mm : 16.00
Tolerance mm : + - 0.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 500
Aneroid pressure
inPa : -
Del. quantity
cm³/1000 strokes : 134.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spred
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 109.0
tolerance degree : + - 4.0

RATED SPEED
rack travel mm : 13.30
Rated speed rpm : 1153
Tolerance 1/min : + - 8

rack travel mm : 4.00
Rated speed rpm : 1245
Tolerance 1/min : + - 15

rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 79.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 8.00

Testing:

Rated speed rpm : 300

rack travel mm : 6.60

Tolerance mm : + - 0.10

rack travel mm : 2.00

Rated speed rpm : 420

Tolerance 1/min : + - 20

TORQUE CONTROL

Rated speed rpm : 1100

rack travel mm : 14.55

Tolerance mm : + - 0.15

Rated speed rpm : 500

rack travel mm : 14.55

Tolerance mm : + - 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500

Pressure hPa : 1500

rack travel mm : 14.55

Tolerance mm : + - 0.15

Rated speed rpm : 500

Pressure hPa : -

rack travel mm : 10.15

Tolerance mm : + - 0.05

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 490

rack travel mm : 11.25

Tolerance mm : + - 0.10

Pressure hPa : 790

rack travel mm : 13.25

Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1500

Rated speed rpm : 1100

Del. quantity

cm³/1000 strokes : 214.0

Tolerance

cm³/1000 strokes : + - 2.0

Check tolerance

cm³/1000S. : + - 5.0

Spread

Tolerance

cm³/1000 strokes : 12.0

Check tolerance

cm³/1000S. : 15.0

Aneroid pressure

hPa : 1500

Rated speed rpm : 500

rack travel mm : 14.55

Tolerance mm : + - 0.15

Del. quantity

cm³/1000 strokes : 238.0

Tolerance

cm³/1000 strokes : + - 3.0

Check tolerance

cm³/1000S. : + - 6.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

rack travel mm : 16.00

Tolerance mm : + - 0.50

Del. quantity

cm³/1000 strokes : 195.0

Tolerance

cm³/1000 strokes : + - 15.0

Check tolerance

cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 6.60

Tolerance mm : + - 0.10

Del. quantity

cm³/1000 strokes : 20.0

Tolerance

cm³/1000 strokes : + - 3.0

Check tolerance

cm³/1000S. : + - 6.0

Spread

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.08.94
Test oil : ISO 4113

Combination No. : 0 402 640 843

Injection pump
Pump designation : PE12P120A520LS7877
EP type number : 0 412 620 840

Governor
Governor design. : RQ750PA1158
Governor no. : 0 421 801 727

Cust. part No. : 51.11103-7282

Customer-spec. information

Customer : MAN
Motor : D2842LE201
Power KW : 532.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 4.55
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 12- 1- 5- 9- 8
: - 3- 4- 11- 10
: - 2- 6- 7

Phasing : 0-45-60-105-120
: -165-180-225-240
: -285-300-345
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 14.80
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 350.0

Tolerance
 $\text{cm}^3/1000$ strokes : \pm 1.0
 Check tolerance
 $\text{cm}^3/1000\text{s.}$: \pm 4.0
 Speed
 Tolerance
 $\text{cm}^3/1000$ strokes : 6.0
 Check tolerance
 $\text{cm}^3/1000\text{s.}$: 10.0
 Rated speed rpm : 300
 Del. quantity
 $\text{cm}^3/1000$ strokes : 17.0
 Tolerance
 $\text{cm}^3/1000$ strokes : \pm 3.0
 Check tolerance
 $\text{cm}^3/1000\text{s.}$: \pm 6.0
 Speed
 Tolerance
 $\text{cm}^3/1000$ strokes : 10.0
 Check tolerance
 $\text{cm}^3/1000\text{s.}$: 14.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 758
 guide sleeve
 travel mm : 3.24
 Tolerance mm : \pm 0.25
 Rated speed rpm : 490
 guide sleeve
 travel mm : -11.08
 Tolerance mm : \pm 0.25
 Rated speed rpm : 850
 guide sleeve
 travel mm : 17.35
 Tolerance mm : \pm 0.25
 Rated speed rpm : 811
 guide sleeve
 travel mm : 10.00
 Tolerance mm : \pm 0.25
 Rated speed rpm : 870
 guide sleeve
 travel mm : 11.50
 Tolerance mm : \pm 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure
 hPa : -
 Del. quantity
 $\text{cm}^3/1000$ strokes : 350.0
 Tolerance
 $\text{cm}^3/1000$ strokes : \pm 1.0
 Check tolerance
 $\text{cm}^3/1000\text{s.}$: \pm 4.0
 Speed
 Tolerance
 $\text{cm}^3/1000$ strokes : 6.0
 Check tolerance
 $\text{cm}^3/1000\text{s.}$: 10.0

CONTROL LEVER

control lever
 position degree : 88.0
 tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 0.50
 Tolerance mm : \pm 0.50
 Rated speed rpm : 900

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
 rack travel mm : 13.80
 Rated speed rpm : 787
 Tolerance 1/min : \pm 4
 rack travel mm : 4.00

Rated speed rpm : 751
 rack travel mm : 13.80
 Rated speed rpm : 788
 Tolerance 1/min : \pm 4
 rack travel mm : 4.00

Rated speed rpm : 752
 rack travel mm : 13.80
 Rated speed rpm : 789
 Tolerance 1/min : \pm 4
 rack travel mm : 4.00

Rated speed rpm : 753

rack travel mm : 13.80

Rated speed rpm : 790
Tolerance 1/min : + - 4
rack travel mm : 4.00

Rated speed rpm : 754
rack travel mm : 13.80

Rated speed rpm : 791
Tolerance 1/min : + - 4
rack travel mm : 4.00

Rated speed rpm : 755
rack travel mm : 13.80

Rated speed rpm : 792
Tolerance 1/min : + - 4
rack travel mm : 4.00

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 14.80
Tolerance mm : + - 0.05

LOW IDLE

Rated speed rpm : 300

Del. quantity

cm³/1000 strokes : 17.0

Tolerance

cm³/1000 strokes : + - 3.0

Check tolerance

cm³/1000S. : + - 6.0

Spread

Tolerance

cm³/1000 strokes : 10.0

Check tolerance

cm³/1000S. : 14.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.93
Test oil : ISO 4113

Combination No. : 0 402 545 600

Injection pump
Pump designation : PE6P120A720RS7022
EP type number : 0 412 626 873

Governor
Governor design. : RQV200...1000PA539
: -14
Governor no. : 0 421 814 011

Cust. part No. : 1343250

Customer-spec. information
Customer : SCANIA
Motor : DS11 76

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration
damper
(RoBo diaphragm) : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Tolerance : + 0.10
Check tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 250

Rack travel in mm : 4.70
 Tolerance mm : + - 0.10
 Del. quantity cm³/1000 strokes : 17.0
 Tolerance cm³/1000 strokes : + - 2.0
 Check tolerance cm³/1000S. : + - 5.0
 Spread
 Tolerance cm³/1000 strokes : 4.0
 Check tolerance cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1050

Rack travel in mm : 16.50
 Tolerance mm : + - 1.30

CONTROL LEVER

control lever
 position degree : 64.0
 tolerance degree : + - 4.0

control lever
 position degree : 116.0
 tolerance degree : + - 4.0

RATED SPEED
 rack travel mm : 9.90
 Rated speed rpm : 1045
 Tolerance 1/min : + - 5

rack travel mm : 4.00
 Rated speed rpm : 1130
 Tolerance 1/min : + - 15

rack travel mm : 0.50
 Tolerance mm : + - 0.50
 Rated speed rpm : 1250

LOW IDLE

control lever
 position degree : 67.0
 tolerance degree : + - 4.0
 control lever
 position degree : 23.0
 tolerance degree : + - 4.0
 Setting point w/out bumper spring
 Rated speed rpm : 150
 CRT mm min. : > 6.20

Testing:

Rated speed rpm : 250
 rack travel mm : 4.70
 Tolerance mm : + - 0.10
 rack travel mm : 2.00
 Rated speed rpm : 420
 Tolerance 1/min : + - 30

TORQUE CONTROL

Rated speed rpm : 1000
 rack travel mm : 10.95
 Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1500
 rack travel mm : 10.95
 Tolerance mm : + - 0.05

Rated speed rpm : 500
 Pressure hPa : -
 rack travel mm : 10.10
 Tolerance mm : + - 0.20

MEASUREMENT

Rated speed rpm : 500
 Pressure hPa : 340
 rack travel mm : 10.30
 Tolerance mm : + - 0.15
 Pressure hPa : 390
 rack travel mm : 10.65

Tolerance mm : + 0.05

Check tolerance
cm³/1000S. : 8.0

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1500

Rated speed rpm : 1000

Del. quantity

cm³/1000 strokes : 170.0

Tolerance

cm³/1000 strokes : + 4.0

Check tolerance

cm³/1000S. : + 6.0

Aneroid pressure

hPa : -

Rated speed rpm : 500

Del. quantity

cm³/1000 strokes : 144.0

Tolerance

cm³/1000 strokes : + 1.0

Check tolerance

cm³/1000S. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

rack travel mm : 10.10

Tolerance mm : + 0.20

Del. quantity

cm³/1000 strokes : 160.0

Tolerance

cm³/1000 strokes : + 20.0

Check tolerance

cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 250

Rack travel in mm : 4.70

Tolerance mm : + 0.10

Del. quantity

cm³/1000 strokes : 17.0

Tolerance

cm³/1000 strokes : + 2.0

Check tolerance

cm³/1000S. : + 5.0

Spread

Tolerance

cm³/1000 strokes : 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 11.11.93
Test oil : ISO 4113

Combination No. : 0 402 646 607

Injection pump
Pump designation : PE6P130A720RS7270
EP type number : 0 412 636 821

Governor
Governor design. : RQV300...950PA946-4
Governor no. : 0 421 814 026

Cust. part No. :

Customer-spec. information

Customer : IVECO-UNIC
Motor : 8210.42P.032

TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 14.00
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : -11.35
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 212.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance cm³/1000s. : + 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000s. : 8.0

 Rated speed rpm : 275
 Rack travel in mm : 4.70
 Tolerance mm : + 0.10
 Del. quantity cm³/1000 strokes : 22.0
 Tolerance cm³/1000 strokes : + 3.0
 Check tolerance cm³/1000s. : + 6.0
 Spread
 Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000s. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1060
 Rack travel in mm : 10.30
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950
 Aneroid pressure hPa : 1000
 Del. quantity cm³/1000 strokes : 212.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000s. : + 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0

Check tolerance cm³/1000s. : 8.0

CONTROL LEVER

control lever
 position degree : 121.0
 tolerance degree : + 4.0
 RATED SPEED
 rack travel mm : 10.30
 Rated speed rpm : 995
 Tolerance 1/min : + 5
 rack travel mm : 4.00
 Rated speed rpm : 1060
 Tolerance 1/min : + 15
 rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1200

LOW IDLE

control lever
 position degree : 77.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 100
 CRT mm min. : > 6.90

Testing:

Rated speed rpm : 275
 rack travel mm : 4.70
 Tolerance mm : + 0.10

Rated speed rpm : 338

TORQUE CONTROL

Rated speed rpm : 950
 rack travel mm : -11.35
 Tolerance mm : + 0.05

Rated speed rpm : 550
 rack travel mm : 11.40
 Tolerance mm : + 0.10

Rated speed rpm : 500
 rack travel mm : 8.00

Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 550
Pressure hPa : 1000
rack travel mm : 11.35
Tolerance mm : + - 0.05

Rated speed rpm : 550
Pressure hPa : -
rack travel mm : 10.40
Tolerance mm : + - 0.10

MEASUREMENT

Rated speed rpm : 550
Pressure hPa : 260
rack travel mm : 10.70
Tolerance mm : + - 0.10

Pressure hPa : 300
rack travel mm : 11.05
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 216.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
rack travel mm : 8.00
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : + - 5.0
Check tolerance
cm³/1000S. : + - 8.0
Spread

Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

Aneroid pressure
hPa : -
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 185.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated,
rack must reach start position in max.
control lever setting.

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 275
Rack travel in mm : 4.70
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.05.97
Test oil : ISO 4113

Combination No. : 0 402 646 608

Injection pump
Pump designation : PE6P120A720RS7188
: -10J
EP type number : 0 412 626 926

Governor
Governer design. : RQ200/950PA745-3
Governer no. : 0 421 801 579

Cust. part no. : 1344920

Customer-spec. information

Customer : SCANIA
Motor : DSC 11 71

TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Vibration
damper
(RoBo diaphragm) : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 235
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 008
Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.75
Tolerance mm : + - 0.05

Rated speed rpm : 250

Rack travel in mm : 4.70
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spred
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0**(B) SETTING OF INJECTION PUMP
WITH GOVERNOR**

GUIDE SLEEVE TRAVELRated speed rpm : 1006
guide sleeve
travel mm : 4.90
Tolerance mm : + - 0.15Rated speed rpm : 250
guide sleeve
travel mm : 1.41
Tolerance mm : + - 0.20Rated speed rpm : 930
guide sleeve
travel mm : 4.50
Tolerance mm : + - 0.10Rated speed rpm : 355
guide sleeve
travel mm : 2.97
Tolerance mm : + - 0.10Rated speed rpm : 520
guide sleeve
travel mm : 4.50
Tolerance mm : + - 0.10Rated speed rpm : 1045
guide sleeve
travel mm : 5.50
Tolerance mm : + - 0.10Rated speed rpm : 1360
guide sleeve
travel mm : 11.50
Tolerance mm : + - 0.50

GUIDE SLEEVE POSITIONcontrol lever
position degree : 104
Rated speed rpm : 600Rack travel in mm : 16.50
Tolerance mm : + - 1.30

CONTROL LEVERcontrol lever
position degree : 42.0
tolerance degree : + - 4.0control lever
position degree : 96.0
tolerance degree : + - 4.0**RATED SPEED**
rack travel mm : 9.70
Rated speed rpm : 1050
Tolerance 1/min : + - 5
Check
speed 1/min : + - 10rack travel mm : 4.00
Rated speed rpm : 1135
Tolerance 1/min : + - 15
Check
speed 1/min : + - 20rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 1250

LOW IDLEcontrol lever
position degree : 62.0
tolerance degree : + - 4.0

control lever
position degree : 8.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 150

CRT mm min. : > 6.00

Testing:

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : + - 20

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 10.75
Tolerance mm : + - 0.05

Rated speed rpm : 950
rack travel mm : 10.75
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 10.75
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.75
Tolerance mm : + - 0.05

MEASUREMENT

Rated speed rpm : 500

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 950

Del. quantity
cm³/1000 strokes : 158.0
Tolerance
cm³/1000 strokes : + - 4.0
Check tolerance
cm³/1000S. : + - 6.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.75
Tolerance mm : + - 0.05
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 250
Rack travel in mm : 4.70
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS**Note remarks**

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 01.10.93
Test oil : ISO 4113

Combination No. : 0 402 646 629

Injection pump
Pump designation : PE6P120A320LS7278
EP type number : 0 412 626 880

Governor
Governor design. : RQV325...1000PA1050
: -2
Governor no. : 0 421 814 061

Cust. part No. :

Customer-spec. information
Customer : LIAZ
Motor : M636S
Power KW : 170.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 120
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.00
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Del. quantity
cm³/1000 strokes : 184.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000s. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000s. : 9.0

Rated speed rpm : 325
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000s. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1056
guide sleeve
travel mm : 8.66
Tolerance mm : + 0.15

Rated speed rpm : 325
guide sleeve
travel mm : 1.55
Tolerance mm : + 0.20

Rated speed rpm : 764
guide sleeve
travel mm : 5.77
Tolerance mm : + 0.25

Rated speed rpm : 404
guide sleeve
travel mm : 2.41
Tolerance mm : + 0.25

Rated speed rpm : 500
guide sleeve
travel mm : 3.35
Tolerance mm : + 0.25

Rated speed rpm : 1270
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1135

Rack travel in mm : 9.70
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 184.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000s. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000s. : 9.0

CONTROL LEVER

control lever
position degree : 64.0
tolerance degree : + 4.0

control lever
position degree : 117.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 9.65
Rated speed rpm : 1045
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1125
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 65.0
tolerance degree : + - 4.0

control lever
position degree : 9.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. : > 6.10

Testing:

Rated speed rpm : 350

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 10.65
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 8.20
Tolerance mm : + - 0.20

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 365
rack travel mm : 9.05
Tolerance mm : + - 0.20

Pressure hPa : 590
rack travel mm : 10.25
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 143.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 325.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 325
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.93
Test oil : ISO 4113

Combination No. : 0 402 646 631

Injection pump
Pump designation : PE6P120A720RS7307
EP type number : 0 412 626 905

Governor
Governor design. : RQ300/1100PA1095
Governor no. : 0 421 801 693

Cust. part No. : 615.60.08.0279

Customer-spec. information

Customer : SNF
Motor : WD615.48/49

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + - 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + - 0.1

Overflow quantity
min. l/h : 180
Tolerance l/h : + - 20.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + - 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + - 1.0

Prestroke mm : 4.35
Tolerance mm : + - 0.05
Check tolerance mm : + - 0.10

Rack travel in mm : 10.50
Tolerance mm : + - 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + - 0.30
Check tolerance °NW : + - 0.75

Start of delivery blocking

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.65
Tolerance mm : + - 0.05

Del. quantity
 cm³/1000 strokes : 229.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 300
 Rack travel in mm : 7.20
 Tolerance mm : + - 0.10
 Del. quantity
 cm³/1000 strokes : 21.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1150
 guide sleeve
 travel mm : 6.37
 Tolerance mm : + - 0.10
 Rated speed rpm : 300
 guide sleeve
 travel mm : 1.75
 Tolerance mm : + - 0.10
 Rated speed rpm : 1100
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 426
 guide sleeve
 travel mm : 5.04

Tolerance mm : + - 0.10
 Rated speed rpm : 500
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 1280
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : 109
 Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 229.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

CONTROL LEVER

control lever
 position degree : 94.0
 tolerance degree : + - 4.0

RATED SPEED
 rack travel mm : 11.60
 Rated speed rpm : 1145
 Tolerance 1/min : + - 8

rack travel mm : 4.00
 Rated speed rpm : 1200
 Tolerance 1/min : + - 15

rack travel mm : 0.70
 Tolerance mm : + - 0.70

Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 75.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 9.40

Testing:

Rated speed rpm : 300
rack travel mm : 7.20
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 415
Tolerance 1/min : + 20

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.65
Tolerance mm : + 0.05

Rated speed rpm : 650
rack travel mm : 12.65
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.65
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.60
Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 725

rack travel mm : 12.00
Tolerance mm : + 0.10

Pressure hPa : 450
rack travel mm : 11.00
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 247.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 158.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.60
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 7.20
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000s. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.06.95
Test oil : ISO 4113

Combination No. : 0 402 646 634

Injection pump
Pump designation : PE6P120A720RS7188
: -10
EP type number : 0 412 626 924

Governor
Governor design. : RQ200...950PA745-5
Governor no. : 0 421 801 695

Cust. part No. : 1356404

Customer spec. information

Customer : SCANIA
Motor : DSC 11 73

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration
damper
(RoBo diaphragm) : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 250

Rack travel in mm : 4.70
Tolerance mm : + 0.10
Del. quantity cm³/1000 strokes : 16.0
Tolerance cm³/1000 strokes : + 3.0

Check tolerance
 cm³/1000S. : + 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1006
 guide sleeve
 travel mm : 4.90
 Tolerance mm : + 0.15

Rated speed rpm : 250
 guide sleeve
 travel mm : 1.41
 Tolerance mm : + 0.20

Rated speed rpm : 930
 guide sleeve
 travel mm : 4.50
 Tolerance mm : + 0.10

Rated speed rpm : 355
 guide sleeve
 travel mm : 2.97
 Tolerance mm : + 0.10

Rated speed rpm : 520
 guide sleeve
 travel mm : 4.50
 Tolerance mm : + 0.10

Rated speed rpm : 1045
 guide sleeve
 travel mm : 5.50
 Tolerance mm : + 0.10

Rated speed rpm : 1360
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : 109
 Rated speed rpm : 500

Rack travel in mm : 20.00
 Tolerance mm : + 0.80

CONTROL LEVER

control lever
 position degree : 43.0
 tolerance degree : + 4.0

control lever
 position degree : 97.0
 tolerance degree : + 4.0

RATED SPEED
 rack travel mm : 10.20
 Rated speed rpm : 995
 Tolerance 1/min : + 5
 Check
 speed 1/min : + 10

rack travel mm : 4.00
 Rated speed rpm : 1125
 Tolerance 1/min : + 15
 Check
 speed 1/min : + 20

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1200

LOW IDLE

control lever
 position degree : 65.0
 tolerance degree : + 4.0

control lever
 position degree : 11.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 150
 CRT mm min. : > 6.00

Testing:

Rated speed rpm : 250
 rack travel mm : 4.70
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 340
 Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 11.25
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.25
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.40
Tolerance mm : + - 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 210
rack travel mm : 10.60
Tolerance mm : + - 0.15

Pressure hPa : 270
rack travel mm : 11.05
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 179.0
Tolerance
cm³/1000 strokes : + - 4.0
Check tolerance
cm³/1000S. : + - 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.40
Tolerance mm : + - 0.20
Del. quantity
cm³/1000 strokes : 165.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 250

Rack travel in mm : 4.70
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.93
Test oil : ISO 4113

Combination No. : 0 402 646 635

Injection pump
Pump designation : PE6P120A720RS7307
EP type number : 0 412 626 905

Governor
Governor design. : RQV300...1100PA1100
Governor no. : 0 421 814 074

Cust. part No. : 615.60.08.0280

Customer-spec. information

Customer : SNF
Motor : WD615.48/49
Power KW : 265.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 180
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 4.35
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery blocking

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.65
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 229.0

Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 300
 Rack travel in mm : 7.20
 Tolerance mm : + 0.10
 Del. quantity
 cm³/1000 strokes : 21.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spred
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1270
 Rack travel in mm : 11.60
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 229.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0

Spred
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

CONTROL LEVER

control lever
 position degree : 119.0
 tolerance degree : + 4.0

RATED SPEED
 rack travel mm : 11.60
 Rated speed rpm : 1145
 Tolerance 1/min : + 5
 rack travel mm : 4.00
 Rated speed rpm : 1265
 Tolerance 1/min : + 15
 rack travel mm : 0.70
 Tolerance mm : + 0.70
 Rated speed rpm : 1350

LOW IDLE

control lever
 position degree : 87.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 9.40

Testing:

Rated speed rpm : 300
 rack travel mm : 7.20
 Tolerance mm : + 0.10

Rated speed rpm : 380

TORQUE CONTROL
 Rated speed rpm : 1100
 rack travel mm : 12.65
 Tolerance mm : + 0.05

Rated speed rpm : 650
 rack travel mm : 12.65
 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.65
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.60
Tolerance mm : + - 0.10

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 725
rack travel mm : 12.00
Tolerance mm : + - 0.10

Pressure hPa : 450
rack travel mm : 11.00
Tolerance mm : + - 0.05

Rated speed rpm : 100
rack travel mm : 10.70
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 7.20
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 247.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 158.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0

End of test specification sheet

STARTING FUEL DELIVERY

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.10.93
Test oil : ISO 4113

Combination No. : 0 402 646 636

Injection pump
Pump designation : PE6P120A320LS7278
EP type number : 0 412 626 880

Governor
Governor design. : RQV325...1000PA1058
: -3
Governor no. : 0 421 814 072

Cust. part No. :

Customer-spec. information

Customer : LIAZ
Motor : ML637S
Power KW : 190.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.10
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 325

Rack travel in mm : 5.30
Tolerance mm : + 0.30
Del. quantity cm³/1000 strokes : 20.0

Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Speed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1057
 guide sleeve
 travel mm : 8.68
 Tolerance mm : + 0.15

 Rated speed rpm : 325
 guide sleeve
 travel mm : 1.55
 Tolerance mm : + 0.20

 Rated speed rpm : 764
 guide sleeve
 travel mm : 5.77
 Tolerance mm : + 0.25

 Rated speed rpm : 354
 guide sleeve
 travel mm : 1.90
 Tolerance mm : + 0.25

 Rated speed rpm : 404
 guide sleeve
 travel mm : 2.41
 Tolerance mm : + 0.25

 Rated speed rpm : 500
 guide sleeve
 travel mm : 3.35
 Tolerance mm : + 0.25

 Rated speed rpm : 1270
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1100

Rack travel in mm : 12.30
 Tolerance mm : + 1.30

CONTROL LEVER

control lever
 position degree : 66.0
 tolerance degree : + 4.0

 control lever
 position degree : 120.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.40
 Rated speed rpm : 1045
 Tolerance 1/min : + 5

 rack travel mm : 4.00
 Rated speed rpm : 1160
 Tolerance 1/min : + 15

 rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1250

LOW IDLE

control lever
 position degree : 65.0
 tolerance degree : + 4.0

 control lever
 position degree : 11.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. : > 6.70

Testing:

Rated speed rpm : 325
 rack travel mm : 5.30
 Tolerance mm : + 0.30

 rack travel mm : 2.00
 Rated speed rpm : 495
 Tolerance 1/min : + 30

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.40
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
Tolerance mm : + - 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 300
rack travel mm : 11.00
Tolerance mm : + - 0.10

Pressure hPa : 665
rack travel mm : 13.00
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS**Aneroid pressure**

hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 143.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 410.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 325
Rack travel in mm : 5.30
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.10.93
Test oil : ISO 4113

Combination No. : 0 402 646 642

Injection pump
Pump designation : PE6P120A320LS7278
EP type number : 0 412 626 880

Governor
Governor design. : RQV325...1000PA1058
: -4
Governor no. : 0 421 814 080

Cust. part No. :

Customer-spec. information
Customer : LIAZ
Motor : ML636P
Power KW : 152.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.35
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 325

Rack travel in mm : 4.00
Tolerance mm : + 0.30

Det. quantity
 cm³/1000 strokes : 24.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1045
 guide sleeve
 travel mm : 8.53
 Tolerance mm : + 0.15

Rated speed rpm : 325
 guide sleeve
 travel mm : 1.55
 Tolerance mm : + 0.20

Rated speed rpm : 760
 guide sleeve
 travel mm : 5.73
 Tolerance mm : + 0.25

Rated speed rpm : 354
 guide sleeve
 travel mm : 1.90
 Tolerance mm : + 0.25

Rated speed rpm : 404
 guide sleeve
 travel mm : 2.50
 Tolerance mm : + 0.25

Rated speed rpm : 490
 guide sleeve
 travel mm : 3.25
 Tolerance mm : + 0.25

Rated speed rpm : 1270
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1

Rated speed rpm : 1125
 Rack travel in mm : 10.50
 Tolerance mm : + 1.30

CONTROL LEVER

control lever
 position degree : 61.0
 tolerance degree : + 4.0

control lever
 position degree : 116.0
 tolerance degree : + 4.0

RATED SPEED
 rack travel mm : 10.60
 Rated speed rpm : 1045
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1135
 Tolerance 1/min : + 15

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1250

LOW IDLE

control lever
 position degree : 64.0
 tolerance degree : + 4.0

control lever
 position degree : 9.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 225

CRT mm min. : > 5.60

Testing:

Rated speed rpm : 325
 rack travel mm : 4.00
 Tolerance mm : + 0.30

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.60
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
Tolerance mm : + - 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 380
rack travel mm : 9.95
Tolerance mm : + - 0.20

Pressure hPa : 580
rack travel mm : 11.20
Tolerance mm : + - 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 143.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 330.0
Tolerance
cm³/1000 strokes : + - 20.0
Check tolerance
cm³/1000S. : + - 24.0

LOW IDLE

Rated speed rpm : 325
Rack travel in mm : 4.00
Tolerance mm : + - 0.30
Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS**Note remarks**

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.06.94
Test oil : ISO 4113

Combination No. : 0 402 646 645

Injection pump
Pump designation : PE6P120A720RS7330
EP type number : 0 412 626 917

Governor:
Governor design. : RQV300...1200PA1145K
Governor no. : 0 421 815 412

Cust. part No. : 615.60.08.0210

Customer-spec. information

Customer : SNF
Motor : WD612.32
Power KW : 169.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.20
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 15.00
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 12.50
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 178.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000s. : + 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000s. : 9.0

Rated speed rpm : 300
 Rack travel in mm : 6.00
 Tolerance mm : + 0.10
 Del. quantity
 cm³/1000 strokes : 16.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000s. : + 6.0
 Spred
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000s. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1255
 guide sleeve
 travel mm : 10.44
 Tolerance mm : + 0.25
 Rated speed rpm : 300
 guide sleeve
 travel mm : 1.75
 Tolerance mm : + 0.25
 Rated speed rpm : 843
 guide sleeve
 travel mm : 6.59
 Tolerance mm : + 0.25
 Rated speed rpm : 333
 guide sleeve
 travel mm : 2.29
 Tolerance mm : + 0.25
 Rated speed rpm : 383
 guide sleeve
 travel mm : 2.89
 Tolerance mm : + 0.25

Rated speed rpm : 490
 guide sleeve
 travel mm : 3.86
 Tolerance mm : + 0.25
 Rated speed rpm : 1490
 guide sleeve
 travel mm : 13.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1340
 Rack travel in mm : 11.20
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 178.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000s. : + 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000s. : 9.0

CONTROL LEVER

control lever
 position degree : 120.0
 tolerance degree : + 4.0

RATED SPEED
 rack travel mm : 11.40
 Rated speed rpm : 1245
 Tolerance 1/min : + 5
 rack travel mm : 4.00
 Rated speed rpm : 1345
 Tolerance 1/min : + 15
 rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1450

	Pressure hPa	:	-
	rack travel mm	:	9.90
	Tolerance mm	:	+ 0.10
<hr/>			
LOW IDLE	MEASUREMENT		
control lever	Rated speed rpm	:	1200
position degree : 73.0	Pressure hPa	:	755
tolerance degree : + 4.0	rack travel mm	:	12.15
Setting point w/out bumper spring	Tolerance mm	:	+ 0.10
Rated speed rpm : 200	Pressure hPa	:	355
CRT mm min. : > 8.00	rack travel mm	:	10.20
Testing:	Tolerance mm	:	+ 0.05
Rated speed rpm : 300	<hr/>		
rack travel mm : 6.00	Start interlock		
Tolerance mm : + 0.10	Rated speed rpm : > 100		
Rated speed rpm : 300	Rated speed rpm : < 230		
<hr/>			
TORQUE CONTROL	Check speed 1/min : > 80		
Rated speed rpm : 1200	Check speed 1/min : < 250		
rack travel mm : 12.50	<hr/>		
Tolerance mm : + 0.05	FUEL DELIVERY CHARACTERISTICS		
Rated speed rpm : 1000	Aneroid pressure hPa : 1200		
rack travel mm : 12.80	Rated speed rpm : 1000		
Tolerance mm : + 0.10	Del. quantity cm ³ /1000 strokes : 190.0		
Rated speed rpm : 800	Tolerance cm ³ /1000 strokes : + 3.0		
rack travel mm : 12.25	Check tolerance cm ³ /1000S. : + 6.0		
Tolerance mm : + 0.10	Spread		
Rated speed rpm : 650	Tolerance		
rack travel mm : 11.50	cm ³ /1000 strokes : 8.0		
Tolerance mm : + 0.10	Check tolerance cm ³ /1000S. : 12.0		
Rated speed rpm : 500	<hr/>		
rack travel mm : 11.50	Aneroid pressure hPa : 1200		
Tolerance mm : + 0.10	Rated speed rpm : 800		
<hr/>			
ANEROID/ALTITUDE COMPENSATOR TEST	rack travel mm : 12.25		
SETTING	Tolerance mm : + 0.10		
Rated speed rpm : 1200	Del. quantity cm ³ /1000 strokes : 192.0		
Pressure hPa : 1200	Tolerance cm ³ /1000 strokes : + 2.0		
rack travel mm : 12.50	Check tolerance cm ³ /1000S. : + 4.0		
Tolerance mm : + 0.05	Spread		
Rated speed rpm : 1200	<hr/>		

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 182.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 187.5
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 148.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 7.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.50

Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 6.00
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.06.94
Test oil : ISO 4113

Combination No. : 0 402 646 648

Injection pump
Pump designation : PE6P120A720RS7330
EP type number : 0 412 626 917

Governor
Governor design. : RQV300...1200PA1144K
Governor no. : 0 421 815 417

Cust. part No. : 612.60.08.0211

Customer-spec. information

Customer : SNF
Motor : WD612.34
Power KW : 191.0

TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.20
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 15.00
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 13.90
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 190.5

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spred

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.80
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spred

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1255
guide sleeve
travel mm : 9.85
Tolerance mm : + 0.25

Rated speed rpm : 300
guide sleeve
travel mm : 1.20
Tolerance mm : + 0.25

Rated speed rpm : 845
guide sleeve
travel mm : 6.06
Tolerance mm : + 0.25

Rated speed rpm : 335
guide sleeve
travel mm : 1.79
Tolerance mm : + 0.25

Rated speed rpm : 385
guide sleeve
travel mm : 2.47
Tolerance mm : + 0.25

Rated speed rpm : 480
guide sleeve
travel mm : 3.23
Tolerance mm : + 0.25

Rated speed rpm : 1530
guide sleeve
travel mm : 13.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1340

Rack travel in mm : 12.90
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 190.5

Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

Spred
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 119.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 12.90
Rated speed rpm : 1245
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1365
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 73.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 8.10

Testing:

Rated speed rpm : 300
rack travel mm : 6.80
Tolerance mm : + - 0.10

Rated speed rpm : 360

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 13.90
Tolerance mm : + - 0.05

Rated speed rpm : 1000
rack travel mm : 13.90
Tolerance mm : + - 0.10

Rated speed rpm : 800
rack travel mm : 13.80
Tolerance mm : + - 0.10

Rated speed rpm : 650
rack travel mm : 13.00
Tolerance mm : + - 0.10

Rated speed rpm : 500
rack travel mm : 12.70
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST**SETTING**

Rated speed rpm : 1200
Pressure hPa : 1200
rack travel mm : 13.90
Tolerance mm : + - 0.05

Rated speed rpm : 1200

Pressure hPa : -
rack travel mm : 10.70
Tolerance mm : + - 0.10

MEASUREMENT

Rated speed rpm : 1200

Pressure hPa : 965
rack travel mm : 13.50
Tolerance mm : + - 0.10

Pressure hPa : 420
rack travel mm : 11.00
Tolerance mm : + - 0.05

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 250

Check speed 1/min : > 80
Check speed 1/min : < 270

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200
Rated speed rpm : 1000
Del. quantity cm³/1000 strokes : 202.0
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0
Spread
Tolerance cm³/1000 strokes : 8.0
Check tolerance cm³/1000S. : 12.0

Aneroid pressure hPa : 1200
Rated speed rpm : 800
rack travel mm : 13.80
Tolerance mm : + - 0.10
Del. quantity cm³/1000 strokes : 214.0
Tolerance cm³/1000 strokes : + - 3.0
Check tolerance cm³/1000S. : + - 6.0
Spread

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 206.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 204.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 155.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 14.50

Del. quantity
cm³/1000 strokes : 175.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 20.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 6.80
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.03.98
Test oil : ISO 4113

Combination No. : 0 402 646 673

Injection pump
Pump designation : PE6P120A320RS7412
EP type number : 0 412 626 953

Governor
Governor design. : RQV275...1000PA1300K
Governor no. : 0 421 815 527

Cust. part No. : 1315099

Customer-spec. information

Customer : DAF
Motor : XF 250 M
Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 150
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

Start of delivery mark

Tolerance : + 0.10
Check
tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 12.00
Tolerance mm : + - 0.05

Del. quantity
cm³/1000 strokes : 289.0

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : 3.90
Tolerance mm : + - 0.10

Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : + - 3.0

Check tolerance
cm³/1000S. : + - 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1072
guide sleeve
travel mm : 10.16
Tolerance mm : + - 0.15

Rated speed rpm : 275
guide sleeve
travel mm : 2.04
Tolerance mm : + - 0.20

Rated speed rpm : 701
guide sleeve
travel mm : 6.52
Tolerance mm : + - 0.25

Rated speed rpm : 400
guide sleeve
travel mm : 3.92
Tolerance mm : + - 0.25

Rated speed rpm : 1310
guide sleeve
travel mm : 13.50
Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1181

Rack travel in mm : 10.00
Tolerance mm : + - 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 289.0

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 118.0
tolerance degree : + - 4.0

RATED SPEED
rack travel mm : 10.50
Rated speed rpm : 1045
Tolerance 1/min : + - 5
Check
speed 1/min : + - 10

rack travel mm : 4.00
Rated speed rpm : 1140
Tolerance 1/min : + - 15
Check
speed 1/min : + - 20

rack travel mm : 0.70
 Tolerance mm : \pm 0.70
 Rated speed rpm : 1275

LOW IDLE

control lever
 position degree : 70.0
 tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 175
 CRT mm min. : > 6.50

Testing:

Rated speed rpm : 275
 rack travel mm : 3.90
 Tolerance mm : \pm 0.10

Rated speed rpm : 310

TORQUE CONTROL

Rated speed rpm : 750
 rack travel mm : 12.00
 Tolerance mm : \pm 0.05

Rated speed rpm : 980
 rack travel mm : 11.50
 Tolerance mm : \pm 0.10

Rated speed rpm : 900
 rack travel mm : 11.70
 Tolerance mm : \pm 0.10

Rated speed rpm : 700
 rack travel mm : 12.00
 Tolerance mm : \pm 0.10

Rated speed rpm : 600
 rack travel mm : 11.40
 Tolerance mm : \pm 0.10

Rated speed rpm : 500
 rack travel mm : 10.90
 Tolerance mm : \pm 0.10

Rated speed rpm : 1000
 rack travel mm : 11.50
 Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 775
 Pressure hPa : 1500
 rack travel mm : 12.00
 Tolerance mm : \pm 0.10

Rated speed rpm : 775
 Pressure hPa : -
 rack travel mm : 8.30
 Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 775
 Pressure hPa : 460
 rack travel mm : 11.00
 Tolerance mm : \pm 0.05

Pressure hPa : 250
 rack travel mm : 9.30
 Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1500
 Rated speed rpm : 980
 Del. quantity
 cm³/1000 strokes : 250.0
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 5.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

rack travel mm : 11.70
 Tolerance mm : \pm 0.10

Aneroid pressure
 hPa : -
 Rated speed rpm : 600
 Del. quantity
 cm³/1000 strokes : 188.0

Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000s. : + 4.0

LOW IDLE

Rated speed rpm : 275

Rack travel in mm : 3.90

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000s. : + 6.0

Speed

Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.04.96
Test oil : ISO 4113

Combination No. : 0 402 646 741

Injection pump
Pump designation : PE6P120A320LS7872
EP type number : 0 412 626 912

Governor
Governor design. : RQ750PA1231
Governor no. : 0 421 801 791

Cust. part No. : 04222728KY0165-17

Customer-spec. information

Customer : KHD
Motor : BF6M1015/C
Power KW : 239.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 100
Tolerance l/h : + 20.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 4.05
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 6- 3- 5- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery mark

Tolerance : + 0.50
Check tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.30
Tolerance mm : + - 0.05

Del. quantity
cm³/1000 strokes : 365.0

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : + - 3.0

Check tolerance
cm³/1000S. : + - 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 715
guide sleeve
travel mm : 4.23
Tolerance mm : + - 0.15

Rated speed rpm : 610
guide sleeve
travel mm : 0.72
Tolerance mm : + - 0.25

Rated speed rpm : 900
guide sleeve
travel mm : 14.89
Tolerance mm : + - 0.25

Rated speed rpm : 862

guide sleeve
travel mm : 12.00
Tolerance mm : + - 0.25

Rated speed rpm : 930
guide sleeve
travel mm : 13.50
Tolerance mm : + - 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 365.0

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 109.0
tolerance degree : + - 4.0

RATED SPEED

rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 900

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
rack travel mm : 12.30

Rated speed rpm : 780
Tolerance 1/min : + - 4
rack travel mm : 5.50

rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 900

Rated speed rpm : 751
rack travel mm : 12.30

Rated speed rpm : 781
Tolerance 1/min : + - 4

rack travel mm : 5.50

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 900

Rated speed rpm : 752
rack travel mm : 12.30

Rated speed rpm : 782
Tolerance 1/min : + 4
rack travel mm : 5.50

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 900

Rated speed rpm : 753
rack travel mm : 12.30

Rated speed rpm : 783
Tolerance 1/min : + 4
rack travel mm : 5.50

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 900

Rated speed rpm : 754
rack travel mm : 12.30

Rated speed rpm : 784
Tolerance 1/min : + 4
rack travel mm : 5.50

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 900

Rated speed rpm : 755
rack travel mm : 12.30

Rated speed rpm : 785
Tolerance 1/min : + 4
rack travel mm : 5.50

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 900

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.30
Tolerance mm : + 0.05

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 560

Check
speed 1/min : > 80
Check
speed 1/min : < 580

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : + 0.75
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.07.96
Test oil : ISO 4113

Combination No. : 0 402 646 779

Injection pump
Pump designation : PE6P120A320LS7872
EP type number : 0 412 626 912

Governor
Governor design. : RQ300/1000PA1163
Governor no. : J 421 801 734

Cust. part No. : B0165-6-4

Customer-spec. information

Customer : KHD
Motor : BF6M1015C
Power KW : 300.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 4.05
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 6- 3- 5- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check tolerance °NW : + 0.75

Start of delivery mark

Tolerance : + 0.50
Check tolerance °NW : + 0.75
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 14.00
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 340.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 300
 Rack travel in mm : 5.00
 Tolerance mm : + - 0.10
 Del. quantity
 cm³/1000 strokes : 23.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1051
 guide sleeve
 travel mm : 6.36
 Tolerance mm : + - 0.10
 Rated speed rpm : 300
 guide sleeve
 travel mm : 1.73
 Tolerance mm : + - 0.10
 Rated speed rpm : 1000
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 388
 guide sleeve
 travel mm : 4.79

Tolerance mm : + - 0.10
 Rated speed rpm : 460
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 1210
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : 109
 Rated speed rpm : 465
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
 Aneroid pressure
 hPa : 1700
 Del. quantity
 cm³/1000 strokes : 340.0
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0

CONTROL LEVER

control lever
 position degree : 100.0
 tolerance degree : + - 4.0
 RATED SPEED
 rack travel mm : 13.00
 Rated speed rpm : 1045
 Tolerance 1/min : + - 5
 rack travel mm : 4.00
 Rated speed rpm : 1125
 Tolerance 1/min : + - 15
 rack travel mm : 0.50
 Tolerance mm : + - 0.50

Rated speed rpm : 1220

rack travel mm : 13.00
Tolerance mm : + 0.05

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 8.00

Testing:

Rated speed rpm : 300
rack travel mm : 5.00
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 365
Tolerance 1/min : + 20

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 14.00
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1700
rack travel mm : 14.00
Tolerance mm : + 0.05

Rated speed rpm : 400
Pressure hPa : -
rack travel mm : 8.90
Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 400
Pressure hPa : 365
rack travel mm : 9.80
Tolerance mm : + 0.10

Pressure hPa : 1000

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 220

Check
speed 1/min : > 80
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 21.00
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 5.00
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.08.94
Test oil : ISO 4113

Combination No. : 0 402 646 788

Injection pump
Pump designation : PE6P120A320LS7858
EP type number : 0 412 626 875

Governor
Governor design. : RQ300/1050PA1031-11
Governor no. : 0 421 8C1 680

Cust. part No. : 0240740302

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 200.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.75
Tolerance mm : + 0.05

Del. quantity cm³/1000 strokes : 190.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0
 Rated speed rpm : 300
 Rack travel in mm : 5.20
 Tolerance mm : + 0.10
 Del. quantity cm³/1000 strokes : 19.0
 Tolerance cm³/1000 strokes : + 3.0
 Check tolerance cm³/1000S. : + 6.0
 Spread
 Tolerance cm³/1000 strokes : 6.0
 Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1103
 guide sleeve travel mm : 6.38
 Tolerance mm : + 0.10
 Rated speed rpm : 300
 guide sleeve travel mm : 2.59
 Tolerance mm : + 0.10
 Rated speed rpm : 1050
 guide sleeve travel mm : 6.00
 Tolerance mm : + 0.10
 Rated speed rpm : 410

guide sleeve travel mm : 5.25
 Tolerance mm : + 0.10
 Rated speed rpm : 480
 guide sleeve travel mm : 6.00
 Tolerance mm : + 0.10
 Rated speed rpm : 1280
 guide sleeve travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever position degree : 109
 Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure hPa : 800
 Del. quantity cm³/1000 strokes : 190.0
 Tolerance cm³/1000 strokes : + 1.0
 Check tolerance cm³/1000S. : + 4.0
 Spread
 Tolerance cm³/1000 strokes : 5.0
 Check tolerance cm³/1000S. : 9.0

CONTROL LEVER

control lever position degree : 94.0
 tolerance degree : + 4.0

RATED SPEED
 rack travel mm : 10.75
 Rated speed rpm : 1098
 Tolerance 1/min : + 8
 rack travel mm : 4.00
 Rated speed rpm : 1175
 Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + - 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
CRT mm min. : > 7.50

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 380
Tolerance 1/min : + - 20

TORQUE CONTROL
Rated speed rpm : 1050
rack travel mm : 11.75
Tolerance mm : + - 0.05

Rated speed rpm : 550
rack travel mm : 11.75
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 800
rack travel mm : 11.75
Tolerance mm : + - 0.05

Rated speed rpm : 400
Pressure hPa : -
rack travel mm : 9.75
Tolerance mm : + - 0.15

MEASUREMENT

Pressure hPa : -

Rated speed rpm : 500
rack travel mm : 9.75
Tolerance mm : + - 0.15

Rated speed rpm : 400
Pressure hPa : 200
rack travel mm : 10.60
Tolerance mm : + - 0.10

Pressure hPa : 350
rack travel mm : 11.25
Tolerance mm : + - 0.05

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 220

Check
speed 1/min : > 80
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 800
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 184.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 350
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 127.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 220.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 5.20
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spred
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.02.87
Test oil : ISO 4113

Combination No. : 0 402 646 803

Injection pump
Pump designation : PE6P120A720RS7004
EP type number : 0 412 626 801

Governor
Governor design. : RQ750PA528
Governor no. : 0 421 801 126

Cust. part No. :

Customer-spec. information

Customer : SAAB-SCANIA
Motor : s. Bemerkungen

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance check tolerance °NW : + 0.50
tolerance °NW : + 0.75

BASIC SETTING

Del. quantity cm³/1000 strokes : 210.0

Tolerance cm³/1000 strokes : + 1.0

Check tolerance cm³/1000S. : + 4.0

Spread

Tolerance cm³/1000 strokes : 6.0

Check tolerance cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure hPa : -
Del. quantity cm³/1000 strokes : 210.0
Tolerance cm³/1000 strokes : + - 1.0
Check tolerance cm³/1000S. : + - 4.0
Spread Tolerance cm³/1000 strokes : 6.0
Check tolerance cm³/1000S. : 9.0

CONTROL LEVER

control lever position degree : 87.0
tolerance degree : + - 4.0

RATED SPEED
rack travel mm : 11.80
Rated speed rpm : 753
Tolerance 1/min : + - 3

rack travel mm : 4.00
Rated speed rpm : 791
Tolerance 1/min : + - 7

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
rack travel mm : 11.80

Rated speed rpm : 788
Tolerance 1/min : + - 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 850

Rated speed rpm : 751
rack travel mm : 11.80

Rated speed rpm : 789
Tolerance 1/min : + - 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 850

Rated speed rpm : 752
rack travel mm : 11.80

Rated speed rpm : 790
Tolerance 1/min : + - 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 850

Rated speed rpm : 753
rack travel mm : 11.80

Rated speed rpm : 791
Tolerance 1/min : + - 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 850

Rated speed rpm : 754
rack travel mm : 11.80

Rated speed rpm : 792
Tolerance 1/min : + - 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 850

Rated speed rpm : 755
rack travel mm : 11.80

Rated speed rpm : 793
Tolerance 1/min : + - 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + - 0.50
Rated speed rpm : 850

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + - 0.50
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : + - 25.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.10.94
Test oil : ISO 4113

Combination No. : 0 402 646 892

Injection pump
Pump designation : PE6P120A720RS7170
EP type number : 0 412 626 829

Governor
Governor design. : RQS0CPA758-12
Governor no. : 0 421 801 500

Cust. part No. : 1305084

Customer-spec. information
Customer : SCANIA
Motor : DS 11

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration
damper
(RoBo diaphragm) : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 12.55
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 247.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000s. : + 4.0

Spred		Rated speed rpm : 850
Tolerance cm ³ /1000 strokes	: 7.0	Aneroid pressure hPa : 900
Check tolerance cm ³ /1000S.	: 10.0	Del. quantity cm ³ /1000 strokes : 247.0
Rack travel in mm	: 5.90	Tolerance cm ³ /1000 strokes : + - 1.0
Tolerance mm	: + - 0.20	Check tolerance cm ³ /1000S. : + - 4.0
Del. quantity cm ³ /1000 strokes	: 16.0	Spred
Tolerance cm ³ /1000 strokes	: + - 4.0	Tolerance cm ³ /1000 strokes : 7.0
Check tolerance cm ³ /1000S.	: + - 6.0	Check tolerance cm ³ /1000S. : 10.0
Spred		
Tolerance cm ³ /1000 strokes	: 4.0	
Check tolerance cm ³ /1000S.	: 7.0	

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 909
guide sleeve	
travel mm	: 3.73
Tolerance mm	: + - 0.25
Rated speed rpm	: 630
guide sleeve	
travel mm	: -7.07
Tolerance mm	: + - 0.25
Rated speed rpm	: 1050
guide sleeve	
travel mm	: 16.80
Tolerance mm	: + - 0.25
Rated speed rpm	: 989
guide sleeve	
travel mm	: 10.00
Tolerance mm	: + - 0.25
Rated speed rpm	: 1050
guide sleeve	
travel mm	: 11.50
Tolerance mm	: + - 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

CONTROL LEVER

control lever	
position degree	: 86.0
tolerance degree	: + - 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm	: 900
rack travel mm	: 11.50
Rated speed rpm	: 946
Tolerance 1/min	: + - 4
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: + - 0.50
Rated speed rpm	: 1000
Rated speed rpm	: 901
rack travel mm	: 11.50
Rated speed rpm	: 947
Tolerance 1/min	: + - 4
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: + - 0.50
Rated speed rpm	: 1000
Rated speed rpm	: 902
rack travel mm	: 11.50
Rated speed rpm	: 948
Tolerance 1/min	: + - 4
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: + - 0.50
Rated speed rpm	: 1000

Rated speed rpm : 903
rack travel mm : 11.50

Rated speed rpm : 949
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1000

Rated speed rpm : 904
rack travel mm : 11.50

Rated speed rpm : 950
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1000

Rated speed rpm : 905
rack travel mm : 11.50

Rated speed rpm : 951
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1000

TORQUE CONTROL
Rated speed rpm : 850
rack travel mm : 12.55
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 12.55
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.90
Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 370
rack travel mm : 10.85
Tolerance mm : + 0.15

Pressure hPa : 575
rack travel mm : 12.05
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 152.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000s. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.90
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : + 20.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.11.93
Test oil : ISO 4113

Combination No. : 0 402 646 915X

Injection pump
Pump designation : PE6P120A320LS7836
: -10
EP type number : 0 412 626 854

Governor
Governor design. : RQ300/1050PA972
Governor no. : 0 421 801 542

Cust. part No. : 0200740202

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 200.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.20
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 202.5
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 300
 Rack travel in mm : 5.60
 Tolerance mm : + - 0.10
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1108
 guide sleeve
 travel mm : 6.37
 Tolerance mm : + - 0.10
 Rated speed rpm : 300
 guide sleeve
 travel mm : 1.44
 Tolerance mm : + - 0.10
 Rated speed rpm : 1050
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 404
 guide sleeve
 travel mm : 3.86

Tolerance mm : + - 0.10
 Rated speed rpm : 520
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 1280
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + - 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : 109
 Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure
 hPa : 1400
 Del. quantity
 cm³/1000 strokes : 202.5
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

CONTROL LEVER

control lever
 position degree : 98.0
 tolerance degree : + - 4.0

RATED SPEED
 rack travel mm : 12.20
 Rated speed rpm : 1098
 Tolerance 1/min : + - 8

rack travel mm : 4.00
 Rated speed rpm : 1180
 Tolerance 1/min : + - 15

rack travel mm : 0.75
 Tolerance mm : + - 0.75

Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 7.50

Testing:

Rated speed rpm : 300
rack travel mm : 5.60
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : + 20

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 13.20
Tolerance mm : + 0.05

Rated speed rpm : 800
rack travel mm : 13.20
Tolerance mm : + 0.05

Rated speed rpm : 600
rack travel mm : 13.20
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1400
rack travel mm : 13.20
Tolerance mm : + 0.05

Rated speed rpm : 400
Pressure hPa : -
rack travel mm : 10.25
Tolerance mm : + 0.15

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.15
Tolerance mm : + 0.15

Rated speed rpm : 400

Pressure hPa : 200
Tolerance mm : + 0.10

Pressure hPa : 350
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1400
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 204.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000s. : + 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

rack travel mm : 13.20
Tolerance mm : + 0.05

Aneroid pressure
hPa : 350
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000s. : + 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 130.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000s. : + 4.0
Spread

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.25
Tolerance mm : + - 0.15
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 5.60
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.11.93
Test oil : ISO 4113

Combination No. : 0 402 646 922X

Injection pump
Pump designation : PE6P120A320LS7834
: -10
EP type number : 0 412 626 853

Governor
Governor design. : RQ300/1050PA972-2
Governor no. : 0 421 801 556

Cust. part No. : 0200741102

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 213.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 14.10
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 217.5

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.20

Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : 109

Rated speed rpm : 600

Rack travel in mm : 20.00

Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure

hPa : 1500

Del. quantity
cm³/1000 strokes : 217.5

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spred

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 97.0

tolerance degree : + 4.0

RATED SPEED

rack travel mm : 13.10

Rated speed rpm : 1098

Tolerance 1/min : + 8

rack travel mm : 4.00

Rated speed rpm : 1190

Tolerance 1/min : + 15

rack travel mm : 0.75

Tolerance mm : + 0.75

Rated speed rpm : 1300

LOW IDLE

control lever

position degree : 72.0

tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 8.50

Testing:

Rated speed rpm : 300

rack travel mm : 6.20

Tolerance mm : + 0.10

rack travel mm : 2.00

Rated speed rpm : 400

Tolerance 1/min : + 20

TORQUE CONTROL

Rated speed rpm : 1050

rack travel mm : 14.10
Tolerance mm : + - 0.05

Rated speed rpm : 800
rack travel mm : 14.10
Tolerance mm : + - 0.05

Rated speed rpm : 600
rack travel mm : 14.10
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1500
rack travel mm : 14.10
Tolerance mm : + - 0.05

Rated speed rpm : 400
Pressure hPa : -
rack travel mm : 9.45
Tolerance mm : + - 0.15

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.45
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 350
Tolerance mm : + - 0.05

Pressure hPa : 550
rack travel mm : 13.30
Tolerance mm : + - 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 218.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0
Spread

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

rack travel mm : 14.10
Tolerance mm : + - 0.05

Aneroid pressure
hPa : 350
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 130.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 6.20
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 07.09.93
Test oil : ISO 4113

Combination No. : 0 402 646 924X

Injection pump
Pump designation : PE6P120A320LS7837
: -10
EP type number : 0 412 626 855

Governor
Governor design. : RQ300/950PA971-3
Governor no. : 0 421 801 557

Cust. part No. : 0200743202

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Del. quantity
cm³/1000 strokes : 245.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000s. : + 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000s. : 9.0
 Rated speed rpm : 300
 Rack travel in mm : 5.90
 Tolerance mm : + 0.10
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000s. : + 6.0
 Spred
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000s. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1010
 guide sleeve
 travel mm : 6.68
 Tolerance mm : + 0.10
 Rated speed rpm : 300
 guide sleeve
 travel mm : 2.12
 Tolerance mm : + 0.10
 Rated speed rpm : 950
 guide sleeve
 travel mm : 6.35
 Tolerance mm : + 0.10
 Rated speed rpm : 401
 guide sleeve
 travel mm : 4.49
 Tolerance mm : + 0.10
 Rated speed rpm : 500
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + 0.10

Rated speed rpm : 1160
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : 109
 Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 245.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000s. : + 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000s. : 9.0

CONTROL LEVER

control lever
 position degree : 98.0
 tolerance degree : + 4.0
 RATED SPEED
 rack travel mm : 14.05
 Rated speed rpm : 998
 Tolerance 1/min : + 8
 rack travel mm : 4.00
 Rated speed rpm : 1095
 Tolerance 1/min : + 15
 rack travel mm : 0.75
 Tolerance mm : + 0.75
 Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 8.20

Testing:

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : + 20

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 15.05
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1200
rack travel mm : 15.05
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.05
Tolerance mm : + 0.15

MEASUREMENT

Rated speed rpm : 600
Pressure hPa : 150
rack travel mm : 9.70
Tolerance mm : + 0.10

Pressure hPa : 550
rack travel mm : 13.45
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 204.5
Tolerance
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.10
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 80.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 5.90

Tolerance mm : + 0.10

Del. quantity

cm³/1000 strokes : 19.0

Tolerance

cm³/1000 strokes : + 3.0

Check tolerance

cm³/1000s. : + 6.0

Speed

Tolerance

cm³/1000 strokes : 6.0

Check tolerance

cm³/1000s. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.09.93
Test oil : ISO 4113

Combination No. : 0 402 646 925X

Injection pump
Pump designation : PE6P120A320LS7837
: -10
EP type number : 0 412 626 855

Governor
Governor design. : RQV300...950PA797
: -20
Governor no. : 0 421 813 893

Cust. part No. : 0200743302

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Del. quantity
cm³/1000 strokes : 245.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance cm³/1000S. : + 4.0

Spred

Tolerance cm³/1000 strokes : 5.0

Check tolerance cm³/1000S. : + 9.0

Rated speed rpm : 300

Rack travel in mm : 5.90
Tolerance mm : + 0.10

Del. quantity cm³/1000 strokes : 19.0

Tolerance cm³/1000 strokes : + 3.0

Check tolerance cm³/1000S. : + 6.0

Spred

Tolerance cm³/1000 strokes : 6.0

Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree : - 1
Rated speed rpm : 1025

Rack travel in mm : 16.50
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600

Aneroid pressure hPa : 1200

Del. quantity cm³/1000 strokes : 245.0

Tolerance cm³/1000 strokes : + 1.0

Check tolerance cm³/1000S. : + 4.0

Spred

Tolerance cm³/1000 strokes : 5.0
Check tolerance cm³/1000S. : 9.0

CONTROL LEVER

control lever position degree : 124.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 14.05
Rated speed rpm : 995

Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1100
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1200

LOW IDLE

control lever position degree : 86.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 7.70

Testing:

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : + 0.10

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 15.05
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1200
rack travel mm : 15.05
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.05
Tolerance mm : + - 0.15

MEASUREMENT

Rated speed rpm : 600
Pressure hPa : 150
rack travel mm : 9.70
Tolerance mm : + - 0.10

Pressure hPa : 550
rack travel mm : 13.45
Tolerance mm : + - 0.05

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 240

Check speed 1/min : > 80
Check speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 204.5
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 260.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 5.90
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.09.93
Test oil : ISO 4113

Combination No. : 0 402 646 926X

Injection pump
Pump designation : PE6PM120A320LS7834
: -10
EP type number : 0 412 626 853

Governor
Governor design. : RQV300...950PA797
: -19
Governor no. : 0 421 813 901

Cust. part No. : 0180740502

Customer spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Del. quantity cm³/1000 strokes : 241.0

Tolerance cm³/1000 strokes : + 1.0

Check tolerance cm³/1000S. : + 4.0

Spred

Tolerance cm³/1000 strokes : 6.0

Check tolerance cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.60
Tolerance mm : + 0.10

Del. quantity cm³/1000 strokes : 19.0

Tolerance cm³/1000 strokes : + 3.0

Check tolerance cm³/1000S. : + 6.0

Spred

Tolerance cm³/1000 strokes : 6.0

Check tolerance cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree : - 1
Rated speed rpm : 1020

Rack travel in mm : 16.50
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure hPa : 1200

Del. quantity cm³/1000 strokes : 241.0

Tolerance cm³/1000 strokes : + 1.0

Check tolerance cm³/1000S. : + 4.0

Spred

Tolerance cm³/1000 strokes : 6.0
Check tolerance cm³/1000S. : 9.0

CONTROL LEVER

control lever position degree : 122.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 14.00
Rated speed rpm : 995
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1085
Tolerance 1/min : + 15

rack travel mm : 0.70
Tolerance mm : + 0.70
Rated speed rpm : 1200

LOW IDLE

control lever position degree : 86.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 8.50

Testing:

Rated speed rpm : 300
rack travel mm : 6.60
Tolerance mm : + 0.10

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 15.00
Tolerance mm : + 0.10

Rated speed rpm : 800
rack travel mm : 15.30
Tolerance mm : + 0.10

**ANEROID/ALTITUDE
COMPENSATOR TEST**

SETTING

Rated speed rpm : 550
Pressure hPa : 1200
rack travel mm : 15.30
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.25
Tolerance mm : + - 0.15

MEASUREMENT

Rated speed rpm : 550
Pressure hPa : 550
rack travel mm : 12.90
Tolerance mm : + - 0.05

Pressure hPa : 250
rack travel mm : 10.90
Tolerance mm : + - 0.10

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 240

Check
speed 1/min : > 80
Check
speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 237.5
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

rack travel mm : 15.30
Tolerance mm : + - 0.10

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 215.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 6.60
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread

Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000s. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 10.09.93
Test oil : ISO 4113

Combination No. : 0 402 646 929X

Injection pump
Pump designation : PE6P120A320LS7834
: -10
EP type number : 0 412 626 853

Governor
Governor design. : RQV300...1050PA797
: -25
Governor no. : 0 421 813 924

Cust. part No. : 0200744102

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Del. quantity
cm³/1000 strokes : 241.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance cm³/1000S. : + - 4.0

Spread

Tolerance cm³/1000 strokes : 6.0

Check tolerance cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.60
Tolerance mm : + - 0.10

Del. quantity cm³/1000 strokes : 19.0

Tolerance cm³/1000 strokes : + - 3.0

Check tolerance cm³/1000S. : + - 6.0

Spread Tolerance cm³/1000 strokes : 6.0

Check tolerance cm³/1000S. : 10.0

Tolerance cm³/1000 strokes : 6.0
Check tolerance cm³/1000S. : 9.0

CONTROL LEVER

control lever position degree : 124.0
tolerance degree : + - 4.0

RATED SPEED

rack travel mm : 14.00
Rated speed rpm : 1095
Tolerance 1/min : + - 5

rack travel mm : 4.00
Rated speed rpm : 1185
Tolerance 1/min : + - 15

rack travel mm : 0.70
Tolerance mm : + - 0.70
Rated speed rpm : 1300

LOW IDLE

control lever position degree : 89.5
tolerance degree : + - 2.5

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 8.70

Testing:

Rated speed rpm : 300
rack travel mm : 6.60
Tolerance mm : + - 0.10

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 15.00
Tolerance mm : + - 0.10

Rated speed rpm : 800
rack travel mm : 15.30
Tolerance mm : + - 0.10

GUIDE SLEEVE POSITION

control lever position degree : - 1
Rated speed rpm : 1130

Rack travel in mm : 13.90
Tolerance mm : + - 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550

Aneroid pressure hPa : 1200

Del. quantity cm³/1000 strokes : 241.0

Tolerance cm³/1000 strokes : + - 1.0

Check tolerance cm³/1000S. : + - 4.0

Spread

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 550
Pressure hPa : 1200
rack travel mm : 15.30
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.25
Tolerance mm : + - 0.15

MEASUREMENT

Rated speed rpm : 550
Pressure hPa : 550
rack travel mm : 12.90
Tolerance mm : + - 0.05

Pressure hPa : 250
rack travel mm : 10.90
Tolerance mm : + - 0.10

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 240

Check
speed 1/min : > 80
Check
speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 235.5
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

rack travel mm : 15.30
Tolerance mm : + - 0.10

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 215.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 6.60
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread

Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000s. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.10.93
Test oil : ISO 4113

Combination No. : 0 402 646 931X

Injection pump
Pump designation : PE6P120A320LS7837
: -10
EP type number : 0 412 626 855

Governor
Governor design. : RQV300...1050PA797
: -24
Governor no. : 0 421 813 911

Cust. part No. : 0200748302

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 15.05
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 245.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spred

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.90
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spred

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1100

Rack travel in mm : 16.50
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure

hPa : 1200

Del. quantity
cm³/1000 strokes : 245.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spred

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 122.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 13.90
Rated speed rpm : 1098
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1180
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 85.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 7.70

Testing:

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : + 0.10

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 15.05
Tolerance mm : + 0.05

Rated speed rpm : 1050
rack travel mm : 14.90
Tolerance mm : + - 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1200
rack travel mm : 15.05
Tolerance mm : + - 0.05

Rated speed rpm : 400
Pressure hPa : -
rack travel mm : 9.05
Tolerance mm : + - 0.15

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.05
Tolerance mm : + - 0.15

Rated speed rpm : 400

Pressure hPa : 550
rack travel mm : 13.45
Tolerance mm : + - 0.05

Pressure hPa : 150
rack travel mm : 9.70
Tolerance mm : + - 0.10

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 220

Check speed 1/min : > 80
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 236.0

Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0

Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 204.5
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spred
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 5.90
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spred
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.11.93
Test oil : ISO 4113

Combination No. : 0 402 646 939X

Injection pump
Pump designation : PE6P120A320LS7836
: -10
EP type number : 0 412 626 854

Governor
Governor design. : RQV300...950PA797
: -31
Governor no. : 0 421 813 922

Cust. part No. : 0200742302

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 200.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 13.20
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 204.5
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0
 Rated speed rpm : 300
 Rack travel in mm : 5.60
 Tolerance mm : + 0.10
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1009
 guide sleeve
 travel mm : 8.54
 Tolerance mm : + 0.20
 Rated speed rpm : 300
 guide sleeve
 travel mm : 1.29
 Tolerance mm : + 0.15
 Rated speed rpm : 1570
 guide sleeve
 travel mm : 24.56
 Tolerance mm : + 0.25
 Rated speed rpm : 567

guide sleeve
 travel mm : 4.66
 Tolerance mm : + 0.25
 Rated speed rpm : 617
 guide sleeve
 travel mm : 5.23
 Tolerance mm : + 0.25
 Rated speed rpm : 780
 guide sleeve
 travel mm : 6.31
 Tolerance mm : + 0.25
 Rated speed rpm : 1092
 guide sleeve
 travel mm : 10.00
 Tolerance mm : + 0.25
 Rated speed rpm : 1190
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1020
 Rack travel in mm : 16.50
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950
 Aneroid pressure
 hPa : 1400
 Del. quantity
 cm³/1000 strokes : 204.5
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

CONTROL LEVER

control lever
 position degree : 122.0
 tolerance degree : + 4.0

RATED SPEED
rack travel mm : 12.20
Rated speed rpm : 995
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1090
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : +/- 0.50
Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 86.0
tolerance degree : +/- 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
CRT mm min. : > 7.40

Testing:

Rated speed rpm : 300
rack travel mm : 5.60
Tolerance mm : +/- 0.10

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 13.20
Tolerance mm : +/- 0.05

Rated speed rpm : 800
rack travel mm : 13.20
Tolerance mm : +/- 0.05

Rated speed rpm : 600
rack travel mm : 13.20
Tolerance mm : +/- 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400

Pressure hPa : 1400
rack travel mm : 13.20
Tolerance mm : +/- 0.05

Rated speed rpm : 400
Pressure hPa : -
rack travel mm : 10.45
Tolerance mm : +/- 0.15

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.45
Tolerance mm : +/- 0.15

Rated speed rpm : 400

Pressure hPa : 350
Tolerance mm : +/- 0.05

Pressure hPa : 200
Tolerance mm : +/- 0.10

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 240

Check
speed 1/min : > 80
Check
speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1400
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 204.0
Tolerance
cm³/1000 strokes : +/- 2.0
Check tolerance
cm³/1000S. : +/- 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

rack travel mm : 13.20
Tolerance mm : +/- 0.05

Aneroid pressure
hPa : 350
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

End of test specification sheet

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 5.60
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.09.93
Test oil : ISO 4113

Combination No. : 0 402 646 942X

Injection pump
Pump designation : PE6P120A320LS7837
: -10
EP type number : 0 412 626 855

Governor
Governor design. : RQ300/1050PA993
Governor no. : 0 421 801 581

Cust. part No. : 0200747102

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Del. quantity
cm³/1000 strokes : 245.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000s. : + 4.0

Spread _____

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000s. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.90
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000s. : + 6.0

Spread _____

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000s. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : 109
Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure

hPa : 1200
Del. quantity

cm³/1000 strokes : 245.0
Tolerance

cm³/1000 strokes : + 1.0
Check tolerance

cm³/1000s. : + 4.0
Spread _____

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000s. : 9.0

CONTROL LEVER

control lever
position degree : 99.0
tolerance degree : + 4.0

RATED SPEED
rack travel mm : 13.90
Rated speed rpm : 1098
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1185
Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

Setting point: w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 8.10

Testing:

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : + 20

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 14.90
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST**SETTING**

Rated speed rpm : 600
Pressure hPa : 1200
rack travel mm : 15.05
Tolerance mm : \pm 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.05
Tolerance mm : \pm 0.15

MEASUREMENT

Rated speed rpm : 600
Pressure hPa : 150
rack travel mm : 9.70
Tolerance mm : \pm 0.10

Pressure hPa : 550
rack travel mm : 13.45
Tolerance mm : \pm 0.05

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 220

Check speed 1/min : > 80
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 236.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 204.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 5.90
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.09.93
Test oil : ISO 4113

Combination No. : 0 402 646 950X

Injection pump
Pump designation : PE6P120A320LS7837
: -10
EP type number : 0 412 626 855

Governor
Governor design. : RQ300/950PA993-2
Governor no. : 0 421 801 590

Cust. part No. : 0210747902

Customer-spec. information

Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
Check tolerance mm : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Del. quantity
cm³/1000 strokes : 245.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0
 Spred _____
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

 Rated speed rpm : 300
 Rack travel in mm : 5.90
 Tolerance mm : + 0.10
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spred
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : 109
 Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 245.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spred
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

CONTROL LEVER

control lever
 position degree : 102.0
 tolerance degree : + 4.0

RATED SPEED
 rack travel mm : 14.05
 Rated speed rpm : 998
 Tolerance 1/min : + 8

rack travel mm : 4.00
 Rated speed rpm : 1080
 Tolerance 1/min : + 15

rack travel mm : 0.75
 Tolerance mm : + 0.75
 Rated speed rpm : 1200

LOW IDLE

control lever
 position degree : 74.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 8.30

Testing:

Rated speed rpm : 300
 rack travel mm : 5.90
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 400
 Tolerance 1/min : + 20

TORQUE CONTROL

Rated speed rpm : 950
 rack travel mm : 15.05
 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1200
rack travel mm : 15.05
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 9.05
Tolerance mm : + - 0.15

MEASUREMENT

Rated speed rpm : 600
Pressure hPa : 150
rack travel mm : 9.70
Tolerance mm : + - 0.10

Pressure hPa : 550
rack travel mm : 13.45
Tolerance mm : + - 0.05

Start interlock

Rated speed rpm : > 100
Rated speed rpm : < 220

Check speed 1/min : > 80
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 204.5
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 250.0
Tolerance
cm³/1000 strokes : + - 10.0
Check tolerance
cm³/1000S. : + - 14.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 5.90
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.11.93
Test oil : ISO 4113

Combination No. : 0 402 646 952X

Injection pump
Pump designation : PE6P120A320LS7836
: -10
EP type number : 0 412 626 854

Governor
Governor design. : RQ300/1050PA972-8
Governor no. : 0 421 801 626

Cust. part No. : 0200740902

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 180.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.70
Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 183.5
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

Rated speed rpm : 300
 Rack travel in mm : 5.60
 Tolerance mm : + - 0.10
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + - 3.0
 Check tolerance
 cm³/1000S. : + - 6.0
 Spread
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1108
 guide sleeve
 travel mm : 6.71
 Tolerance mm : + - 0.10

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.70
 Tolerance mm : + - 0.10

Rated speed rpm : 1050
 guide sleeve
 travel mm : 6.35
 Tolerance mm : + - 0.10

Rated speed rpm : 793
 guide sleeve
 travel mm : 6.09

Tolerance mm : + - 0.10
 Rated speed rpm : 396
 guide sleeve
 travel mm : 3.90
 Tolerance mm : + - 0.10
 Rated speed rpm : 510
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + - 0.10
 Rated speed rpm : 1270
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + - 0.50
 Rated speed rpm : 877
 guide sleeve
 travel mm : 6.26
 Tolerance mm : + - 0.10

GUIDE SLEEVE POSITION

control lever
 position degree : 109
 Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure
 hPa : 1400
 Del. quantity
 cm³/1000 strokes : 183.5
 Tolerance
 cm³/1000 strokes : + - 1.0
 Check tolerance
 cm³/1000S. : + - 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

CONTROL LEVER

control lever
 position degree : 96.0
 tolerance degree : + - 4.0

RATED SPEED

rack travel mm : 11.70
Rated speed rpm : 1098
Tolerance 1/min : + - 8

rack travel mm : 4.00
Rated speed rpm : 1180
Tolerance 1/min : + - 15

rack travel mm : 0.75
Tolerance mm : + - 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 7.40

Testing:

Rated speed rpm : 300
rack travel mm : 5.60
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : + - 20

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 12.70
Tolerance mm : + - 0.05

Rated speed rpm : 800
rack travel mm : 12.70
Tolerance mm : + - 0.05

Rated speed rpm : 600
rack travel mm : 12.70
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400

Pressure hPa : 1400
rack travel mm : 12.70
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.75
Tolerance mm : + - 0.15

MEASUREMENT

Rated speed rpm : 400
Pressure hPa : 200
Tolerance mm : + - 0.05

Pressure hPa : -
rack travel mm : 10.75
Tolerance mm : + - 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1400
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 188.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000s. : + - 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

rack travel mm : 12.70
Tolerance mm : + - 0.05

Aneroid pressure
hPa : 200
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 119.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000s. : + - 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.50
Tolerance mm : + - 0.20
Del. quantity
cm³/1000 strokes : 65.0
Tolerance
cm³/1000 strokes : + - 15.0
Check tolerance
cm³/1000S. : + - 19.0

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 5.60
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.11.93
Test oil : ISO 4113

Combination No. : 0 402 646 953X

Injection pump
Pump designation : PE6P120A320LS7836
: -10
EP type number : 0 412 626 854

Governor
Governor design. : RQ300/950PA971-8
Governor no. : 0 421 801 625

Cust. part No. : 0200742002

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 180.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test Lines : 1 680 750 075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 12.70
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 188.5

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 4.0

Spred

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.60
Tolerance mm : + - 0.10

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : + - 3.0

Check tolerance
cm³/1000S. : + - 6.0

Spred

Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : 109
Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + - 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950
Aneroid pressure

hPa : 1400

Del. quantity
cm³/1000 strokes : 188.5

Tolerance
cm³/1000 strokes : + - 1.0

Check tolerance
cm³/1000S. : + - 4.0

Spred

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 96.0
tolerance degree : + - 4.0

RATED SPEED

rack travel mm : 11.70
Rated speed rpm : 998
Tolerance 1/min : + - 8

rack travel mm : 4.00
Rated speed rpm : 1080
Tolerance 1/min : + - 15

rack travel mm : 0.75
Tolerance mm : + - 0.75
Rated speed rpm : 1100

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 7.40

Testing:

Rated speed rpm : 300
rack travel mm : 5.60
Tolerance mm : + - 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : + - 20

TORQUE CONTROL

Rated speed rpm : 950

rack travel mm : 12.70
Tolerance mm : + - 0.05

Rated speed rpm : 800
rack travel mm : 12.70
Tolerance mm : + - 0.05

Rated speed rpm : 600
rack travel mm : 12.70
Tolerance mm : + - 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1400
rack travel mm : 12.70
Tolerance mm : + - 0.05

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 10.75
Tolerance mm : + - 0.15

MEASUREMENT

Rated speed rpm : 400
Pressure hPa : 200
Tolerance mm : + - 0.05

Pressure hPa : -
rack travel mm : 10.75
Tolerance mm : + - 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1400
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 188.0
Tolerance
cm³/1000 strokes : + - 2.0
Check tolerance
cm³/1000S. : + - 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

rack travel mm : 12.70
Tolerance mm : + - 0.05

Aneroid pressure
hPa : 200
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 119.0
Tolerance
cm³/1000 strokes : + - 1.5
Check tolerance
cm³/1000S. : + - 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 133.0
Tolerance
cm³/1000 strokes : + - 1.0
Check tolerance
cm³/1000S. : + - 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.45
Tolerance mm : + - 0.15

LOW IDLE

Rated speed rpm : 300
Rack travel in mm : 5.60
Tolerance mm : + - 0.10
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : + - 3.0
Check tolerance
cm³/1000S. : + - 6.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

End of test specification sheet